Price: £2.50

ST APPLICATIONS

The Magazine for Users of Atari ST, STE, Falcon and TT Computers *Issue No. 36, December 1993*

THIS MONTH

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- View II
- AIM 3
- Falcon SCSI 2 Cable

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- DIY Hard Disk
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- SpeedoGDOS / Publisher 2
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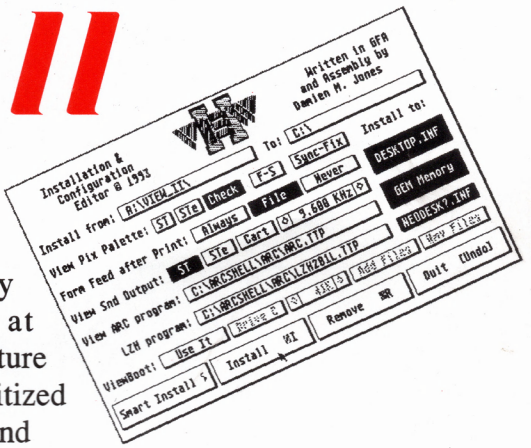
- Beginners' Forum
- Going On-Line
- Forum
- Grafix Arts
- PD Update v13.9
- Falcon News & Forum

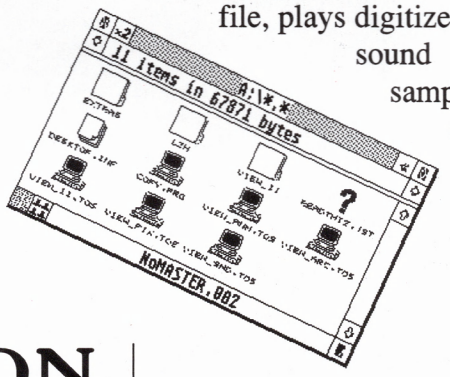
SpeedoGDOS and Publisher 2

Publisher 2 is said not to be happy running under SpeedoGDOS, but this seems only to apply to the latest version of the associated Fontwidth pogram, 2.01 - the original version (2.00) presents no problems. In an addendum to this article Mike Hutchinson goes through the process of installing an improved Bullets font in your Timeworks system.

View II



Peter Crush reviews a desktop utility that shows text files to screen with 2-way scrolling, lets you peep at sixteen types of picture file, plays digitized sound samples and extracts archived files. It works from hard disk at no cost of memory, or else from a RAM disk at the cost of only 48K of memory.



APPLICATIONS FALCON

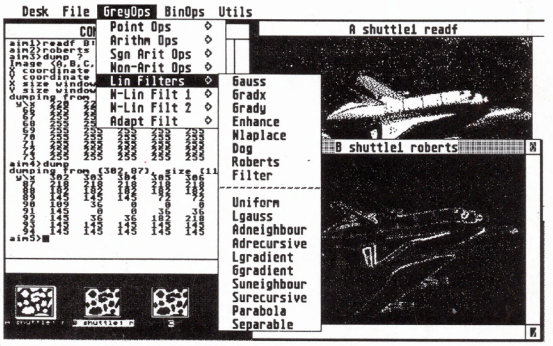
- Falcon News
- Falcon Forum
- Falcon PD and Shareware

Plus:

Piper takes a look at a SCSI to SCSI 2 cable that gets his Falcon to talk to his old ST hard drive.

AIM 3

Sam Marshall reviews the new features of the latest official vesion of the sophisticated PD picture manipulation package AIM - the Atari Image Manager, version 3.



Printed in the U.K.

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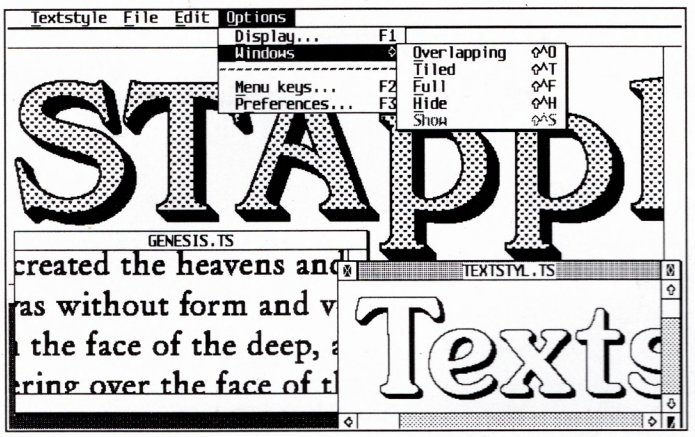
Textstyle

Text styler for Atari ST/TT/Falcon computers



Launch price £14.95
(RRP £19.95)
Available 25 October 1993
Written by Jeremy Hughes

The ST Club
2 Broadway
Nottingham
NG1 1PS
Phone (0602) 410241

- ❒ Create headlines and logos from GEM fonts or Calamus fonts.
- ❒ Import ASCII text containing up to 200 characters, or edit text within Textstyle.
- ❒ Text size and resolution can be adjusted freely.
- ❒ Font sizes can be selected in tenths of a point from 1.0 to 999.9 points (13 inches).
- ❒ Text styles include bold, light, italic, underline, outline, shadow, and pattern.
- ❒ Text styles can be configured to adjust bold increase, outline width, shadow offset, italic angle, text and shadow patterns etc. The angle of italicized text can be adjusted in 1-degree steps from 1 to 45 degrees (GEM skewing is fixed at 27 degrees). Patterns include 43 predefined patterns and 2 user-configurable halftone screens.
- ❒ Leading can be adjusted in 1-point sizes. Word and letter spacing can be adjusted in 1-pixel increments.
- ❒ Text can be left-aligned, centred, right-aligned, and justified.
- ❒ Styled text can be saved in Textstyle format (for reuse at a later date), or exported in IMG or TIFF format. Exported image files can be loaded into other programs or printed from Imagecopy.
- ❒ Advanced user interface including hierarchical menus, multi-key and user-configurable single-key shortcuts, pop-up menus, mouse-positioned alerts etc.

PixArt

A feature packed true colour pixel painting program that supports all ST, TT and Falcon screen resolutions.

Features:

PixArt has very creative block manipulation facilities that will be of great use to DTP users. Block functions include rotation, mirroring, slanting, distortion, projection onto grids; it's astonishing what is possible, and the speed at which it is all done is breathtaking.

Draw any way you choose: brushes and nibs, pencils and crayons, all can be used easily and give clear results.

Graffiti artists come into their own with the spraycan tool. Radius and intensity are easily changed, as are the colour and fill pattern.

You can zoom in or out of the picture and still use all drawing tools.

The PixArt magnifying glass allows you to view all of a large picture in a window, and even here you can still use the drawing tools.

Supports resolutions from 320x200 to 32000x 32000 pixels, monochrome to True Colour.

Picture file formats supported include: IFF, TIF, Degas, ESM, PCX, PIX, IMG, NEO, TGA, BIG (DRAW), PIC, and LBM.

Direct scanner support via GDPS driver system, and graphic tablet support via the Crazy Bits driver system,. These drivers are provided with many kinds of scanner/tablet, or they can be ordered independently if necessary.

Comes with printer drivers for 9-pin and 24-pin dot-matrix, Atari SLM, HP LaserJet, and DeskJet 500C/550C (colour).

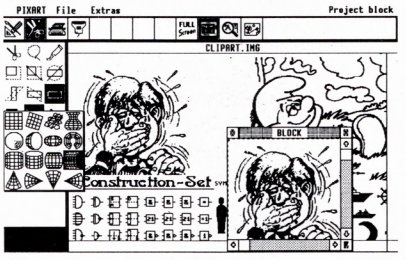
PixArt works with all known graphic cards, including True Colour cards that allow you to work with photo-quality pictures.

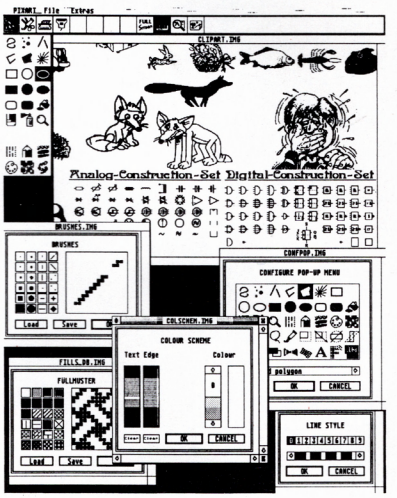
Compatible with TOS versions 1.2 through to MultiTOS. Fully Falcon compatible. 1MB RAM required. Large pictures need more memory. PixArt also uses TT-RAM.

Price: £34.95, Available: Now

PixArt IC: For compatibility with colour dot-matrix printers PixArt is available bundled with Imagecopy 2. Price: £49.95.

PixArt T: Bundled with Textstyle, which allows PixArt to incorporate text generated from Calamus fonts. Price: £44.95





PixArt is ideal for creating invitations, greetings cards, awards and certificates, report covers, labels, tickets, tokens, menus, posters, brochures, price tickets, letter-headings, logos, door signs, and more. The possibilities are only limited by your imagination!

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CREDITS

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Contributions

The articles in *ST Applications* are written by users for users. Everyone reading this magazine will have something to contribute; even if you do not feel able to do a full-length review or article there is the Forum section for short hints, tips and questions. If you are interested in writing for *ST Applications* - regularly or irregularly - please write for a copy of our terms and conditions. We always do our best to reward quality work with appropriate remuneration.

ST Club No Show

Contrary to information given in some advertisements, we will not be exhibiting at the upcoming Birmingham and Manchester Atari events. Some of our products will probably be available from other exhibitors at both shows.

Unfortunately, the timing of the shows clashes badly with our moving offices. Full details of the new address and telephone numbers will be given in issue 37. In the interim, phone calls and mail will be forwarded automatically. Issue 14 of our catalogue will be mailed to subscribers at the end of November.

SharpScore 3.3

Take Control have announced the release of version 3.3 of their score-writing system SharpScore (reviewed in ST Applications in October). In what they are describing as an "astounding technical breakthrough" the program harnesses advanced artificial intelligence techniques to the power of the Atari Falcon's DSP chip to provide acoustic sound recognition. Simply put, you can play (or even sing) into a microphone connected to the Falcon, and have the music notated for you as you perform. The software was introduced at the Classic Music Show in London at the end of October, with plans for full release within the following month.

In addition to the 'notate as you play' facility, this release of the program also features enhanced editing functions, including page reformatting. It will, of course, still run on a standard ST (although without the acoustic recognition capability), and as before MIDI files may be imported and exported. For information on prices and upgrade arrangements, contact *Take Control* on 021 415 4155.

David Harvey

Doctor T Back In Business

Following the recent demise of Zone Distribution, Doctor T's Music Software have set up new distribution channels for the UK. Key Audio Systems are to handle the distribution of the entire Doctor T range. In addition, Avalon Music Developments are to provide technical and educational support for the Omega II MIDI Composition System. AMD will also be responsible for providing an upgrade service to existing users of Omega II and Quickscore Deluxe. An Omega User Group is to be set up by AMD and membership will be free to users upgrading to version II.

Omega II is an upgrade to Doctor T's KCS Omega sequencer. It combines drum machine style recording, graphic note and song editing, MIDI mixing, MIDI machine control and music notation and printing in a single package. The package consists of two versions of the main KCS platform, Tiger 2, an improved version of their real time graphic editing system, the Song Editor, QuickScore (which lets you print out your composition) and a new module, MIXmaster. This incorporates facilities for controlling audio mixing desks and provides a virtual fader display for mixing controls. It features up to 32 configurable sliders, snapshots and slider grouping.

Omega II supports 48 tracks and 126 sequence segments/patterns. All graphic editing is performed in real time while the music plays. This includes everything from the editing of simple pitch transpositions to complex PVG style functions with Compare, Solo and Undo. Omega II fully supports MIDI Timecode and MIDI Machine Control protocols, needs at least 1 megabyte of memory and is Falcon compatible. The complete system costs £275 but users of any version of KCS for the Atari can upgrade for £99, which includes a copy of the fully revised manual. Existing users of Doctor T products are asked to contact AMD to confirm that their details are on file.

For sales of Doctor T products, contact:

Key Audio Systems, Unit D, Robjohn's Road, Chelmsford, Essex.
Tel: 0245 344001; Fax: 0245 344002.

For upgrades to Omega II and Quickscore Deluxe, contact:

Avalon Music Developments, 28 Rosemount Point, Dacres Road, London SE28 2BW.
Tel:\Fax: 081 699 7004.

Read_Me 1st

Subscription Expired? If you received this copy of *ST Applications* through the post, check the first line of your address label carefully: if it reads **STA36**, then your subscription has expired with this issue; if the information line reads "Complimentary Copy" you have been sent a free evaluation copy of *ST Applications*. Either way you must take out a new subscription in order to receive further issues.

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Advertising

There is a limited amount of space for commercial advertising in each issue of *ST Applications*. Contact Nicky Wilson on 0602-410241 for further details and to request a media-pack. Subscribers can place free classified advertisements - see page 57 for details.

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Canadian office: Tel: 519 539 0200; Fax: 519 539 9725.

Contact us for details of your nearest *ST Applications* stockist.

Disk Mags

These are bi-monthly compilations of the best PD software to come to our attention in the preceding couple of months - not magazines on disk. The next Disk Mag, DMG.38, will be dispatched a week or so after issue 36 is sent out.

JAGUAR™ Big Cat Let Loose

This is the concluding part of our in-depth look at Atari's forthcoming Jaguar. This time we look at the Jaguar's graphic capabilities, its connectivity to the outside world, the application of CD-ROM and Atari's marketing plans. Let's start off with the graphics.

The Jaguar has a screen resolution of 720x576 pixels and is capable of displaying 32-bit True Colour graphics. This means that a theoretical 16,777,216 different colours can be displayed on screen at once. In reality, the maximum is of course 414,720 since this is the number of pixels that there are on the screen. When animating, the Jaguar can move over 850 million pixels per second. If that's not enough, it can manipulate 3D polygons in real time and supports real time 3D texture mapping. Lighting sources can be defined in such a way that objects on screen are illuminated at different intensities dependent on their proximity to the light source. Morphing is a process whereby one object can be modified smoothly over a number of frames to transform into another completely different object. This is performed in real time on the Jaguar. The use of the transparency feature allows such effects as smoke, steam and shadows to be created easily, adding to the realism of a game. The screenshots we've seen to date have been pretty mediocre since they were supplied in GIF (256 colour format). However, there are True Colour Targa pictures floating around. Now those would be worth seeing!

Atari are keen to stress the multi-media capabilities of the Jaguar and its connectivity to the outside world. This is handled by its 32-bit expansion bus which allows you to connect to cable and telephone networks. The DSP port allows connection to modems and Digital Audio Tape (DAT) devices. Attaching a modem to the Jaguar will allow you to play multi-player games with other Jaguars over the telephone lines. If you don't like the idea of running up huge phone bills, a ComLynx adaptor will allow Jaguars to be connected to each other or even attached to the Lynx. Does the ability to connect to cable networks open up the possibility of 'shopping by Jaguar' or 'voting by Jaguar' on talent shows? I suppose there are hundreds of other weird and wonderful applications this could be put to.

The CD-ROM drive designed for the Jaguar will be available some time in 1994. It is a dual speed unit, allowing high speed data transfer at a rate of up to 350K per second. This allows full length motion video to be played direct from CD. In preference to MPEG 2, an adaptation of the highly efficient JPEG compression techniques designed for full motion video and audio, Atari have taken a different approach. They are using a modified version of JPEG compression, unimaginatively entitled JagPEG, for cartridge-based software and CinePak for CD-ROM use. JagPEG allows almost 50 megabytes of data to be compressed onto a cartridge with a normal capacity of 6 Megabytes. CinePak is licensed from SuperMac Technologies and allows around one hour of video to be stored on a single CD and replayed within a game (with overlayed computer generated graphics if required) at a rate of up to 30 frames per second. Although the CD-ROM drive is double speed, it can run at normal speed too. This allows you to play audio CDs and Karaoke CD. The Jaguar can also be connected to Kodak's Photo CD player.

Atari plan to spend $3m promoting the Jaguar from now until the end of this year and a massive $45m during 1994. They claim to have about $40 million on hand to launch the Jaguar and are expected to sell shares on the New York Stock Exchange to raise additional finance if need be. Atari are predicting that around 80% of their revenue for 1994 will come from the Jaguar and Lynx, the other 20% presumably coming from the Falcon and the TT. Atari President Sam Tramiel said, "We plan to market and advertise the Jaguar very, very heavily. We realize that's been our weakness in the past."

Atari have recently appointed Terry Valeski, formerly Chief Executive Officer with Intellivision, to front their Jaguar sales and marketing team in The States. He has 22 years of experience in consumer electronics and was around during the original console boom in the early eighties. He will be directly responsible to Atari President Sam Tramiel and will oversee the launch of the Jaguar in The States this month. Tramiel said, "We are very pleased that Terry has joined Atari. His experience is invaluable to us. Developing strong relationships with retailers and developers as well as communicating with customers will be critical to our success as we get ready to market and distribute the Jaguar worldwide." Valeski said, "My job will be to ensure that we attract the best and brightest and to market aggressively through the channels of distribution. You can expect to see some major shifts in the way Atari markets."

Twenty software houses have already signed up licensing agreements for the Jaguar, with several others expected in the next few weeks. The current list includes Anco, Beyond, Eurosoft, Loriciel, Krisalis, Ocean, Silmarils, Titus and US Gold. It is expected that ten games will be ready for release as soon as the Jaguar goes on sale, with a number of others expected in time for Christmas.

The latest news as we go to press, is that Atari UK have confirmed that the Jaguar will appear in this country in small numbers through selected independent dealers during the last week of November or first week of December. It will appear in decent quantities during the first quarter of 1994. The UK price is expected to be £199.95 but is provisional on the state of the dollar against the pound.

News In Brief

Cat To Replace Mouse!

JCA have just 'released' a mouse replacement called 'Tabby'. It is similar in shape and size to a pen and plugs directly into the serial port. The supplied software makes it compatible with all mouse driven programs, with its special click tip taking on the function of the left mouse button and the right button being operated from the keyboard. Its fine resolution at 2048 x 1536 makes it ideal for fine detailed freehand artwork, with a claimed accuracy of plus or minus one pixel. Tabby is supplied with a 170mm x 145mm tablet which replaces the traditional mouse mat. It does not require a power supply, has no mechanical parts and comes with a money back guarantee. If you wish to order a Tabby, please state that it's the ST version you require. Contact JCA Europe Ltd, 30a School Road, Tilehurst, Reading, Berkshire RG3 5AN; Tel: 0734 452416; Fax: 0734 451239.

VR Show

The world's first Virtual Reality exhibition is to take place in London at the end of the month. The VR User Show runs from 30th November to 2nd December at the Novotel, Hammersmith, London. It is being organised by the VR Centre, an organisation dedicated to bringing VR firms and large industrial concerns together. Such notables as British Gas and Rolls Royce will be amongst the exhibitors. I'm sorry to say that I have no information as to opening times or admittance charge.

Cheque It Carefully!

The National & Provincial Building Society have asked us to warn computer dealers throughout the country about fraudulent cheques in circulation. They were stolen from the N&P recently and some have already been used to purchase computer software and hardware. The relevant cheques numbers run from 433401 to 433800, feature the distinctive N&P bee logo and are drawn on the Midland Bank in Burnley.

New Budget Range

Lander Software have recently launched a budget label for their back catalogue of educational software. All titles will sell at £9.99 each and the current line up consists of Hooray for Henrietta, Henrietta's Book of Spells, Count and Add, Mix and Match and Spellbound. Contact Lander Software on 041 357 1659.

No Surprises At Europress

Europress Enterprise have finally published their ABC (Audit Bureau of Circulation) figures for the period January to June 1993. As expected, both magazines experienced a severe drop in sales of much the same magnitude as ST Format. ST User fell from 29,596 to 24,228 and ST Review from 30,117 to 26,098, a fall of 18% and 13% respectively. ST Format continues to be the biggest selling ST magazine on 52,815 copies per month. The latest round of figures now put the publishers on a more or less even footing with Europress having 49% of the ST market compared to Future's 51%.

Kill The Glare

Optix Wales' Computer Protection Glasses are designed to protect your eyes against the glare emitted from your computer monitor and the associated problems it causes, such as eye strain, tension headaches and such like. They come in a unisex design and feature a 23% blue tint and 100% ultraviolet block. The standard model retails at £14.95, with the flip-clip model (for those of you who already wear glasses) at £12.95. Both prices include VAT and P&P. Contact Optix Wales, Erw Fynydd, Carmel, Llanelli, Dyfed SA14 7SG; Tel:/Fax: 0269 845826.

Fontpac Plus
Newsletter Setter

New Products from the ST Club

The ST Club has released two new budget products that should make life much more interesting for anyone who wants to inject a little more zest into their WP and DTP documents.

The first is a collection of GEM bit-map fonts for 300dpi printers (lasers and DeskJets) and high resolution screens. All of the fonts have been used in the typesetting of this magazine over the past three years, and they are being released (in compressed format) in one package bearing the name *"Newsletter Setter"*. The typefaces that are on offer include: Century and Century Italic, Castleton Roman, Castleton Italic and Castleton Gothic (aka 'Hardwick'), Souvenir, Souvenir Italic and Souvenir Gothic, Derwent, an 8pt monospaced listings font, a 12pt bullets font, and a small collection of alternative Swiss fonts. There are nearly 60 fonts in all, and the cost for the set is £14.95.

The second new release is *"Textstyle"* by Jeremy Hughes, aimed at helping you to incorporate impressive headings or logos in your WP or DTP documents. It uses both bit-mapped GEM fonts and Calamus outline fonts; with the latter, memory permitting, the size of the text may be scaled up to a maximum of 999 points! As its name suggests, a host of styles may also be added to the text: thickening, thinning, italics, underlining, outlining, shadow effects - with patterns for both text and shadows. The style values are configurable: the angle of slant for italics (from 1° to 45°), the number of dots used for bold, outline, underline; the depth of the shadow and its direction vis-à-vis the text (entered as plus or minus values in the x and y axes), and percentage greyscales for both text and shadow. You may define how much leading, tracking and word spacing the chosen font should carry (minus tracking gives interesting interleaved effects, especially with a 3D shadowed font), and you may also specify the justification of the text on the page. There is an automatic 'fit text' option in the page size dialog.

Texts may be saved in Textstyle's own (TS) format or as IMG/TIFF image files for later incorporation in other applications. Users of DTP packages that only use bit-map fonts (such as Timeworks Publisher and Easy Text Pro) will find this little package an absolute godsend. Later versions may include background fills, colour, text rotation and bending, and the ability to add styles to Speedo fonts. An accessory version is under consideration. Release price: £14.95, thereafter £19.95.

David Smith

Textstyle

The Ally Pally Show

The second in a series of small shows for dedicated Atari users took place on Sunday the 26th of September at Alexandra Palace in Muswell Hill. This looked a very modest affair - not a patch on the Atari shows of the late 80's - but I would soon discover that it was heaven for any applications orientated Atari user.

The show stands were spread over two rooms and between them they had on display a vast array of serious applications. My first stop was Titan Designs. They were showing their latest products including their new Graffiti genlock, which was running showing the standard Atari desktop superimposed over a video image of the show room, which was being piped in through a video camera.

They were also showing Hyperion, their new True Colour image editing and processing programme, and Thought!, their new ideas processor which is billed as: 'an absolutely essential development tool for programmers, authors, manual writers - in fact anyone who develops anything on any Atari computer'. The Falcon version is on offer for £79.95 until December 31st, when it will revert to £99.95.

In the centre section of the second hall we had Gasteiner with their usual vast range of Atari peripherals. Show specials included 170 megabyte hard drives for £350, their scanner plus Migraph OCR software for £139, and the Scan Tray for £49. Taking up the other half of the centre stand were Warp Zone PDL with their latest offerings from the world of public domain software.

In the far corner were a number of Atari machines running Calamus in its various flavours. JCA are the new kid on the Atari block having secured the distribution rights to all of the DMC product range since Halco left the scene. They had a Falcon running Calamus SL, and a Mega ST running version 1.9n.

On many occasions I tried to get near the System Solutions stand but had little luck. They looked like they had been inundated with inquires since the doors opened. Both Karl and Gordon looked very busy. Memory hungry Falcon users were happy to find that System Solutions had a special show price on their Falcon-Wing memory up-grade.

The last stand in this hall was Prospero Software. They were available to give full details and help on all of their programming languages; and they were selling Prospero C, Fortran, and Pascal for less than £50 each.

After taking a few snapshots of the various stands, I moved on to the second, larger hall where I could hear demos playing from the 16/32 Systems stand, and an occasional blast from a synthesiser from the CGS stand.

Compo had set up shop here and had an impressive array of software stacked up behind the row of computers that were showing demos of their products. Neal O'nions was on hand to answer any questions about Compo's product range and the stand was very busy.

Adjacent to Compo, the 16/32 Systems stand could be seen as well as heard. It was an effort to fight your way to the table as people were poring over their latest catalogues looking for the best PD bargins. I could see a rather impressive demo going on in the background which had been transfered to video tape.

They were also showing their vast range of raytracing, morphing and rendering software. Chronos 3D lets you load a CAD 3D image into a virtual universe where you can then change the lighting and camera angles and then create your own animations. The Nova graphics card comes in many configurations beginning with the base model which offers 32,768 colours for the Mega ST owner, this could be had for £327. The top of the range Super Nova which will give 16.7 million colours on any Mega STe or TT would set you back £1150!

They also had Prism Paint, a 2D paint and animation package that allows you to touch-up your Chronos 3D images pixel by pixel. Prism Render 24 also caught my eye as this will allow photo realistic images to be built and has a materials editor that allows you to define surfaces such as wood, copper, marble, etc.

They had a great deal on offer but I was a little confused about which package did what and their compatibility with each other! Their best deals came with the bundled software that they had on offer. Their Phase 4 suite consisted of: Chronos 3D, Prism Paint, Prism Render 24 and Cyber Sculpt for £280, which would get you into the world of 3D animations with least amount of fuss.

Lastly I would like to mention the Rosetta File Translator. This clever piece of software allows you to take images that were created on other machines such as the Mac and PC and translate them into the 3D2 and Lexicor's 3D4 format so they can be loaded into Chronos Animation. This opens up a whole new world as it allows the user to have access to some very sophisticated 3D CAD images that are only available on other platforms. The package will even allow you to save in Pixar's RenderMan and Macintosh Sculpt-3D formats! So if raytracing or designing photo realistic animations is your thing then 16/32 have the software and hardware to allow you to do it.

HiSoft had set-up shop with the stand that they take to all of the shows that they attend. David Link was on hand to discuss any problems and they were doing a brisk trade with some very generous discounts on most of their products. David said he was very pleased with the turn out. I asked him if he thought he might attend the other shows in the year, he was uncertain and said that they might just stick with the London shows. Only time will tell.

Opposite the HiSoft stand the ST Club had set up shop. I was particularly interested in this stand as I had never met Paul himself - only previously speaking to him on the phone. I also wanted to ask about the PixArt programme that they have recently taken on from Omikron in Germany.

I had seen a German demo that a friend had sent me and was impressed to say the least. I particularly liked the feature that allows you to use the full set of tools while you are in zoom mode. Users of Touch-Up will know how useful this would have been if Migraph had incorporated it.

I was also impressed with Omikrons's database, FreeWay, which combines the concept of a card index database with the power of one that employs field structures to search for data. I wait with bated breath for both to appear.

Next to the ST Club stand were the co-sponsors of the show Atari ST User and Atari ST Review. They were ready to give advice on Atari hardware and software.

Lastly, along one wall was the CGS ComputerBild stand. With an impressive array of computers running all of their major software packages. I finally saw the source of the synthesised music which had greeted me as I entered the show: CGS were showing their DigiTape 32 track direct to disk recording software. DigiTape's smaller brother DigiTape Lite was also on show giving you six tracks to record with.

Adjacent to that was a demonstration of DA's Vektor. The operator was showing us the power of the software and manipulating some very impressive colour images on the screen.

The show stopper had to be InShape, a fully integrated 3D rendering, modelling and animation package. Impressive enough, but when you consider that the programme was a part time project of its author, you instantly realise why the quality of German PD software is so high.

InShape allows you to construct a 3D object and then place that object in a world where it can be viewed from any angle. The view that you have can also be recorded and played back as a smooth animation. The programme can also write a 24-bit True Colour file in the industry standard TIFF format which makes the file highly portable. Images can also be converted to their greyscale equivalents and imported into a DTP package.

The package is stunning, and for me it was the most impressive package I had seen in a long time. 3D graphics have come of age on the Atari.

Overall, the show was a great day out. A brisk trade was taking place at all of the tables and an air of kinship could be felt with the other Atari users. If nothing else, the show re-affirmed the Atari machine as a platform for serious applications. I look forward to the next show which will take place at the Birmingham National Motorcycle Museum on Sunday the 5th of December. This will be followed by the Manchester show at Haydock Park on Sunday the 12 of December.

Dave Howell

THE 1993 BIRMINGHAM & MANCHESTER ATARI SHOWS

Sponsored by

ATARI ST USER

ATARI ST REVIEW

europress ENTERPRISE

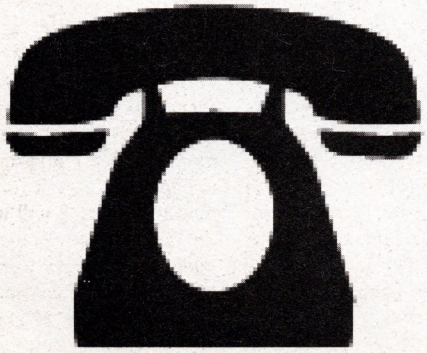
We are please to announce not just one, but two Atari shows, building on the success of last month's 1993 London Atari Show. Birmingham and Manchester are the venues, on the 5th and the 12th of December respectively. Yes, it's true, these two shows are taking place outside of London. Having recognised that Atari users and supporters don't all live by the M25, we are pioneering to bring you these two local Atari shows. Needless to say the more support we receive, the more local Atari shows we will be able to bring you. Again, all the top UK Atari companies will be there, including representatives of some of the big German software houses. With the the backing of ***Atari ST User*** and ***Atari ST Review*** these shows are set to be the biggest Atari event for years.

Who'll be at the show?

All the leading ST publishers of course! These exhibiting will include:

16/32 PDL, Atari ST User, Atari ST Review, CGS, Compo Software, CY Services, Douglas Communications, Falcon Fact File, Gasteiner, Goodmans, HiSoft, Network ST, ST Club, System Solutions/Atari Workshop, Titan Designs, Warpzone PDL

ADVANCED TICKET HOTLINE



0277 211051

Birmingham show venue details

National Motorcycle Museum
Sunday December 5
10am to 6pm
Tickets £5, £3 for entry after 2pm

Nearest train station: Birmingham International
By car: One mile from the NEC, M42, Junction 3

Manchester show venue details

Haydock Park Race Course
Sunday December 12
10am to 6pm
Tickets £5, £3 for entry after 2pm

Nearest train station: Newton-le-Willows
By car: On the A580, one mile from the M6, Junction 23

Organised by David Encill, Neal O'nions and Ray Cross

Magnificent Views!

Stop, look and listen, as they used to say in road safety circles. But nowadays you don't have to stop, you just look, listen, read and de-archive using View II, as Peter Crush discovers.

There are many ways to "view" the contents of a disk file with your ST. The simplest way is from the standard Desktop when you double-click on a file displayed, and that file can be printed or shown to screen. If the file in question is an ASCII text file, it will be "shown" to your monitor, allowing you to read it in screen-size chunks. But if you try to display wordprocessed or data files they may look like gobbledygook, with many strange symbols appearing, and pictures or image files will be similarly indecipherable. The ST's own inbuilt method of displaying files is OK for short text files which take up only one screenful or less of space, but as you cannot scroll back and forth through them, for longer files it's not very useful. And the ST's Show File feature is completely unable to handle picture files or anything other than text.

There are various utilities from all sorts of sources which attempt to redress these shortcomings, and they all work in different ways. For instance, you could use a Desk Accessory text editor such as Edhak or STeno to load and display textfiles, enabling you to scroll through them and even re-format and edit them to taste. As EdHak can display non-ASCII characters, you could even use this utility to look at programming, data and resource files, etc., if you know what you're doing, that is!

When you want to see picture files you either have to use an art program to load and display the image files in question, or you could use a desk accessory picture viewer. Again, there are lots of PD viewers, but the best DA for this kind of use is Imagecopy 2, a low-cost commercial product from The ST Club. Another route for showing files is NeoDesk, and the latest version enables any text, some Degas/Neo pics and program files to be displayed when you double-click on them. In fact, the more you look into the subject of file display, the number of options and methods in use are quite surprising, although none is fully ideal, if there is such a thing. They all have their good points, but they all have shortcomings too! So it was with some anticipation that I unpacked View II, which claims to be the all-round answer to your file display problems.

OverView

What you get for your £14.95 is a double-sided disk and a printed twenty-two page A5-sized manual in a plastic wallet. The d/s disk is "readable" on a single-sided disk drive, the main programs being on side one, the Extras on side two. This should not be a problem, as there can't be too many serious ST owners who haven't upgraded to a d/s drive now. The usual ReadMe file on disk lists the latest improvements to the advertised features, which include better text handling and full compatibility with Warp9, the software screen accelerator also available from The ST Club. The manual instructs you to run the configuration program, and this handles the work of setting up the whole thing for you. This program does a quick scan and check of your ST's system and makes educated guesses about the best way to do the installation, although if you like to "get your hands dirty" you can over-rule this and decide on the various options yourself.

Running the install program results in the display of the main dialog box on screen. This is initially rather intimidating, although it's actually very logically laid out and well explained in the manual. If you don't want to explore the different options, or are just a bit lazy, click on the "Smart Install" button and the program will get to work more or less by itself. Being a cautious kind of chap, I decided to have a good look round the program's many options before letting it loose to write anything onto my hard drive.

As I have already set up my NeoDesk and Desktop .INF files to do a number of file-showing tricks with existing utilities, I didn't want a rampant new utility overwriting them. I needn't have been so circumspect because View II is a very civilised little program, with even the inbuilt ability to de-install itself if necessary! However, old "let's err on the safe side" reviewing habits die hard, and turning off the hard drive I made a temporary boot disk on floppy to test things out.

The View modules

View II currently uses five separate modules or programs to show files, although they are all called by the main one, View_II.TOS.

1. Text Files

Text files use View_II.TOS to show .TXT, .ASC, .DOS or .1ST files, but you can specify any number of other common file extensions to activate the module. Double-click on your file from the Desktop and it will be shown to to screen, where the usual keyboard controls can be used to advance the file. But unlike the standard ST Show File option you can also use the mouse to scroll back and forth through the file, and pressing T or B takes you to the Top or Bottom of the text. If you want to print the text, press P and you are given the option of printing either the whole file or just what is on screen. Another innovation is being able to search or find a particular word in your text, this is accomplished by pressing S or F and entering the characters into the little dialog box that appears, and the word is highlighted if found.

2. Picture Files

Picture files are shown to screen by the View_Pix.TOS module when you double-click on any of the following kinds of file: PI1, PI2, PI3, PC1, PC2, PC3, TNY, TN1, TN2, TN3, NEO, DOO, ART, SPU, and SPS. It doesn't matter what sort of monitor you have if you want to show any of these supported image files. Colour pictures will be "dithered", so you will see a representation of them on your mono screen, and mono pics are similarly shown on colour monitors. Even if you don't have an STe, the program attempts to simulate the extra colours found in some of the picture formats on your old ST, but this may mean some flickering. If you have a Falcon, Spectrum pictures are converted into True Colour for perfect results.

3. Archive Files

Archive files are handled by View_Arc.TOS, and if you double-click on either an .ARC or .LZH file, it's scanned and the statistics are displayed on screen. The file's name, original size, compressed size, percentage reduction and time, date and method of compression are shown, and files can be marked using the mouse pointer or keyboard. Files thus selected can then be extracted to any destination you specify using the file selector, and can be placed within a folder if you want. The actual extraction of the archived file is not done by View II, but carried out by your existing ARC program after View II passes the details on. The whereabouts of your ARC and/or LZH program is known to View II because these paths are set up when you run the initial installation, but for this to work smoothly you really need a hard drive. One advantage to this approach to file extraction is that if better versions of ARCing software appears, you can use the latest.

4. Sound Files

Digitized Sound Files are listened to via View_Snd.TOS. If you double-click on an AVR, WAV, or SND file the sound sample file will load and play, and you will then be returned to the Desktop. If the sample you want to listen to is an SPL or SAM file you will be asked to select the replay speed, as no such information is saved with these files. The ST's function keys are each assigned a different speed, from 4.915 KHz up to 30.729 KHz. If the sample sounds wrong, you can change the speed and play it again, SAM. Pressing ESC or UNDO exits you back to the Desktop. A rather spooky recording of an echoing child's voice saying "Goodnight Mommy, I love you" (it's an American kid!) is included in the Extras folder on disk, and if you want any similar weird sound effects from your monitor, there are plenty of PD examples available.

View II's Ten Essential Features

With View II installed on your ST, you can carry out the following very useful tricks which replace the usual inbuilt Show File functions:

1) View text files with bidirectional mouse or arrow controlled scrolling, fast text search, and screen or file print options.

2) View sixteen kinds of picture files in colour or mono. Convert colour to mono and vice versa, and view STe pics on an ST.

3) View and extract your ARC and LZH files from disk, including even the "lh5" compressed LHarc files.

4) Play digitised sounds through any ST or STe hardware at any speed from 5-30Khz, even through DMA hardware.

5) View SEQ and DLT animations on colour monitors, even if in theory you don't have enough memory to do so.

6) Works with all versions of TOS, on the Falcon030 and with NeoDesk.

7) Takes no memory on a hard drive, and in RAM it takes only 48K or less.

8) Includes a high-speed RAM disk and a re-set proof clock setter.

9) Open-ended design allows new View modules to be added on.

10) Assembly code used for high speed and small size.

How View II Works

The way View II operates depends on your ST system. If you use a hard drive, the five modules which are used to display or play the text, pictures, ARC, sound sample or animation files are copied by the installation program onto your chosen partition. A suitable Desktop .INF file is automatically created so that when you double-click on a file it runs the correct module to "show" the file. Using this method means that no ST memory need be consumed, you don't tie up any precious DA slots, and you don't fill your AUTO folder with lots of potentially clashing utilities. It's simple, effective and it works.

If you lack the luxury of a hard drive, you can use a RAM disk so that View II works from within it. Utilizing this only takes up 48K of memory, which is not bad. Any RAM disk can be used, so if you are already using one, it's just a case of arranging for the relevant modules to be copied into it. This is particularly easy because View II includes an optional RAM disk called ViewBoot, which can be used from the install program's dialog. Most helpfully, you can select what programs are automatically put into ViewBoot when you boot-up next, and this is a more user-friendly process than the usual method of having to create your own information file. ViewBoot constructs a "list" of things you want to put into its RAM disk as you use the file selector to identify what and where they are, it's all dead easy. In fact, you can even use ViewBoot to copy stuff into your own existing RAM disk!

5. Animation Files

Animation Files are run using View_Anm.TOS, and these can only be displayed on a colour monitor. Animation files are basically collections of individual images which when displayed quickly frame by frame combine to give an animated sequence, rather like a cartoon film. To save storage space, animation files are compressed, so when you double-click on one, the program tries to load the whole file into memory for decompression. View_Anm is smart enough to check for available memory, and if there is not enough the file will be played direct from disk. You can adjust the speed of display, advance the frames one by one, and even reverse the direction of the replay. Normally SEQ files are converted into DLT format, which is the only way that animations longer than 25 frames can fit into a 1Mbyte ST. The standard of the animated display is very good, and a short example file is included as an Extra on the disk.

Conclusion

View II is a splendid little utility which deals with more types of files than any other similar program I can think of. Its main strengths are that it's extremely easy to set up and use, and it seems to be very stable and generally compatible with a wide range of ST files. Because it resides on your boot disk or partition, no memory need be taken up, which makes it unlikely to clash with any other memory-resident utilities such as AUTO programs or Desk Accessories. ST owners with smaller memory machines will therefore find View II very useful, as could save any number of DA slots for other utilities to provide similar services.

It is always easy to find fault with any program, especially one which aims to cover such a wide area as View II. So on the debit side I could cite the rather surprising omission that .IMG files cannot be displayed, as these are much more widely used now than Degas format and really ought to be included. And whereas pictures can be merely viewed with View II, Imagecopy 2 knocks it for six when it comes to being able to further process, print or convert images into new formats. The text display with View II is brilliant compared to the ST's Desktop, but doesn't compare with the superb facilities of Mouse Tricks 2's ReadText feature. On the other hand, neither Imagecopy or Mouse tricks can handle sound samples or archive files in the praiseworthy manner that View II can! Come to think of it, The ST Club can't go wrong either way here! (See STA 33 and STA 26 for reviews of Imagecopy 2 and Mouse Tricks 2.)

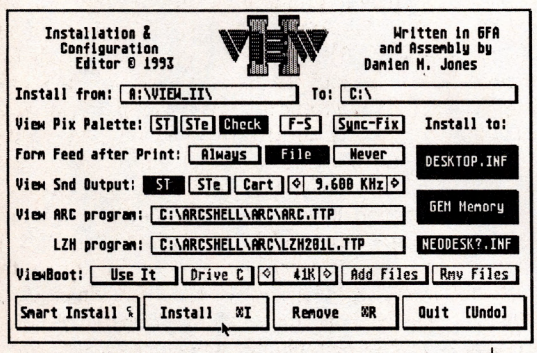
The modest asking price for View II ought to make it a popular no-fuss utility, and if you want greater depth of facilities there's no reason why you can't still use Imagecopy and/or a text editor DA in addition. If your ST already has umpteen utilities for viewing all kinds of files, plus loads of memory (and you've got the spare time to set them all up) then you may not be too interested in View II. But if like many ST owners you don't fit the above bill, you'll find View II a cheap, easy, one-stop solution to file showing, and I wouldn't be at all surprised to see more view modules and increased features being added to View II as time goes.

Points for:

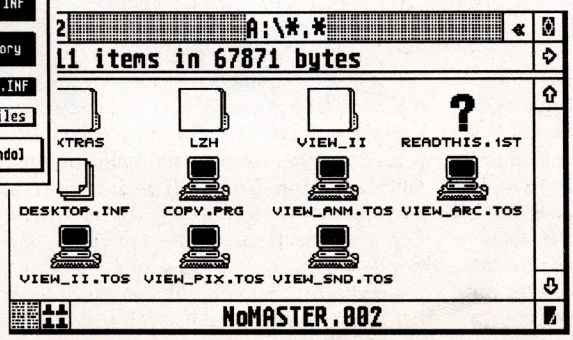
✓ Simple to operate
✓ Very easy to set up
✓ Wide-ranging abilities

Points against:

✘ Text and picture viewers not as fully featured as some dedicated utilities



◁ The configuration menu is where you set up all the important details. It may look a bit complex, but the manual guides you step by step through the choices. You only have to do this the once; after that the installation program writes all the correct .INF files for you, and copies the relevant files to the correct locations. After re-booting, all you have to think about is double-clicking on a file to "show" it!



▷ That's all there is to it, as they say. With just these few modules, all controlled by View II, you can very simply look and listen to all your files.

Product:..... View II
Version:..... 2.02
Price:..... £14.95
Supplier:..... The ST Club
Tel:..... 0602 410241
Manifest:..... 22-page A5 manual and 1 d/s disk
System:..... All STs, STEs, TTs and Falcons

AIM 3

The Atari Image Manager (AIM) is a sophisticated PD picture manipulation package and a long-standing favourite on the ST. The latest version improves substantially on its predecessor (reviewed in ST Applications 29), gaining TT support, better import and export and even more esoteric algorithms! Ever keen to milk an article for all it's worth, Sam Marshall takes a look at what's new.

Where are we up to?

OK, let's start off with a confession. This article is mainly based on AIM 3.0 which is actually dated March 1991. However, it only recently seems to have made it to the UK, and it is still interesting to see what innovations it introduces. There is a later version - 3.1ß - but this is not an official release (more information on what's happening here later).

The Interface Revisited

AIM has always had a very impressive interface - so good that I didn't really expect much to have changed here (a prediction on par with Michael Fish's hurricane forecasts). In fact there are many more delightful innovations - I only wish other software writers would start copying some of them!

Firstly, AIM has adopted 'cascading' menus so that many more options can be hidden as sub-entries from the main bar. Other systems using this technique feel very awkward - either the cascade collapses if the mouse twitches even a little off-course (as in Sun's OpenWindows) or you have to click to descend a level, undermining the 'browsing' appeal of a WIMP interface (as in Redacteur). AIM, however, gets it just right. Sub-menus snappily appear when the pointer passes over an arrow to the right of a main menu item (so you can easily see what lies below) but will only stay up if you left-click. You can then make your selection without worrying about it all vanishing as the cascade is fixed until you click again (outside the menu if you wish to cancel).

I criticised the help function in AIM 2 for being relatively clumsy. This has now been elegantly re-implemented as a menu selection which turns the pointer into a '?'. When you select something AIM generates a short description in its command line interface (CLI) window. If you just want to know the syntax of a command you can add a '+' suffix to its name in the CLI and AIM will prompt you for each parameter.

Other pleasing touches include the ability to iconize windows to clean up the screen; titling of each output window with the last command performed on it and the use of scroll-bars as 'egg-timers' to represent the fraction of time remaining to complete an operation.

Not all is hunky-dory, however: some help entries are missing, so the function fails without explanation; the cascading menus are very cluttered in ST colour modes; and 'abort' and 'undo' functions are still conspicuously absent. Most disappointing, new menu options that require custom parameters revert to the CLI for selection instead of using dialogues. Perhaps this is to reduce memory demands, but it's an inconsistency that mars the overall interface,

In's and Out's

Standard ST files have never been especially suitable for image manipulation - there is just too little information in something like a Degas file to make manipulation worthwhile. AIM's own ".IM" format using 256 greyscales overcame this problem, but limited the potential of the program - exporting to Degas severely degraded the quality, and importing your own images required special scanner hardware. AIM 3 now supports the Epson GT4000 greyscale scanner in full 256 greyscales, and with control over zoom, brightness etc. See Applications 32 for details of Epson scanners that should be compatible with this.

It is now possible to import .IMG files, useful for some DTP-oriented uses at least, and (in theory) .IFF's. Unfortunately IFF's come in a range of compression flavours, and AIM only handles some of them. Sadly this doesn't include Deluxe Paint's. A brighter outlook is found in the integrated PostScript support which generates beautiful hardcopies on a laser printer (though they're inevitably small).

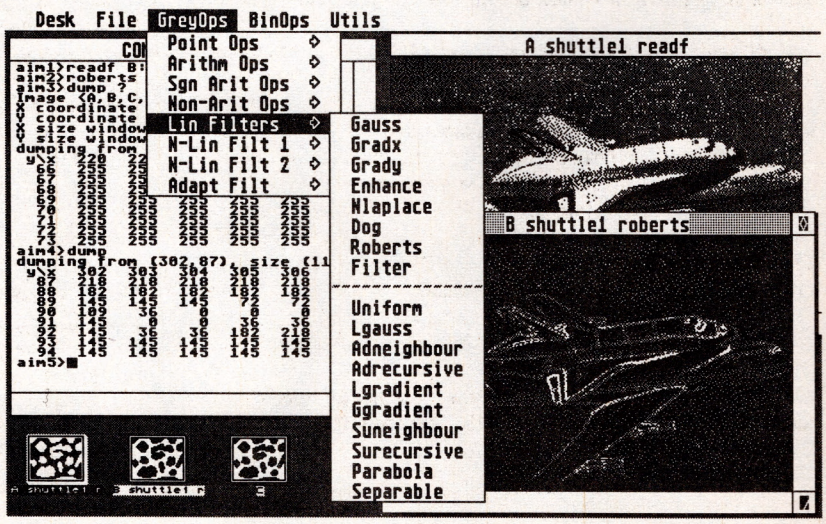
Extra Commands

Over thirty new operators have been added, meaning that AIM can perform almost anything found in a basic image-processing text book. The very keen will be interested to see a range of techniques developed within Delft University. Useful additions include 'dump' which prints a matrix of greyscale values for a mouse-selected area (useful for seeing the detailed operation of algorithms) and 'shad' which produces a gradient fill (from a plane or point source) and can be essential in correcting uneven lighting on an image.

The Bad News

One of the greatest things about AIM was that it came with excellent documentation on disk. Sadly with version 3 it was decided to produce a manual commercially, the argument being that this would permit a professional layout with high-quality images. This may be true, but 1) it undermines the 'appetizer' appeal that used to be AIM's intention and 2) the manual is no longer available anyway! It would have been much better to release an on-disk version in LaTeX, Postscript or even Wordplus format in my opinion. However, all is not lost - the old documents are still available and largely still apply, there is a brief but well-written introduction with AIM 3's distribution, and the on-line help will be adequate for most people.

If you really want a printed manual, the Archimedes version is still supported by a UK company and may be worth investigating - details can be found in the AIM documentation.



The new-look AIM - note the cascading menus. The squares on the left may look like carpet samples but are actually icons for closed windows.

The Not Quite So Bad News

So what of AIM's future? Version 3.1 beta (see The Cad Column, Applications 34) cures some of the file problems that remain by supporting import of TIFF, PCX and (most importantly, perhaps), GIF formats. This grants access to a huge range of 256-colour images to play with. Unfortunately GIF export hasn't been implemented, but TIFF output works well, and a copy of the ever-handy Gem View will convert this to GIF. Also worth mentioning is View GIF as this can convert GIF, Degas and Neochrome images to .IM format (and does a better job than AIM itself, I feel).

Sadly, 3.1 introduces problems of its own as it doesn't seem to load in colour on an STE. The most optimistic description of AIM's future would be 'could be worse'. Delft University never officially supported the venture beyond lending its name to it. The original programmers have now left, and only Robert De Vries retains an interest in it. With a full-time programming job and only an STFM to work on, development is now likely to be limited to bug-fixes for problems he can test. So if anyone has an STE going spare...

Conclusion

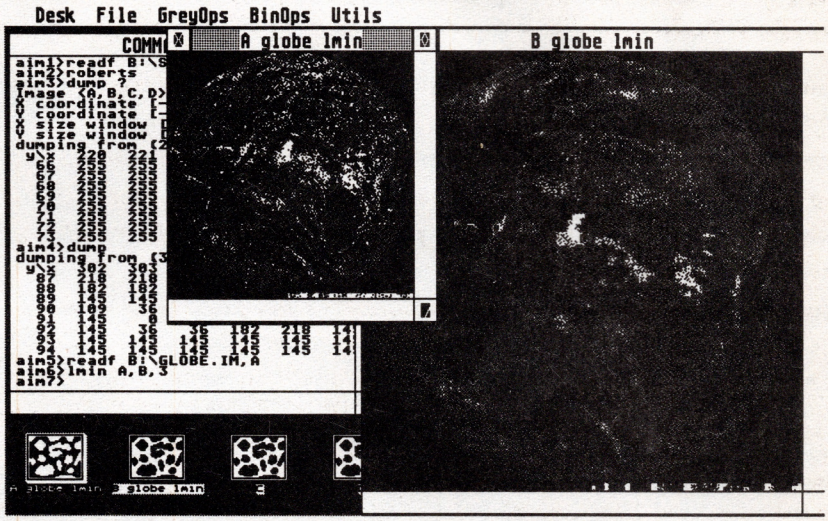
AIM 3 is a most welcome improvement, and well worth upgrading to - even if it's just for improved stability. Inconsistencies aside, the interface continues to be an outstanding example, and the utility of AIM has been greatly enhanced since version 2. Only the degraded documentation really spoils this package.

Competition

DIPS - *Digital Image Processing Software* (GRA.140) is similar, but appears to be less powerful and is in German only.

Also mentioned:

ViewGIF 1.2 (GRA.137) and *GEMView 2.4* (GRA.152) are both very useful picture viewers/converters.



Imagecopy 2

Image utility for Atari ST/TT/Falcon computers

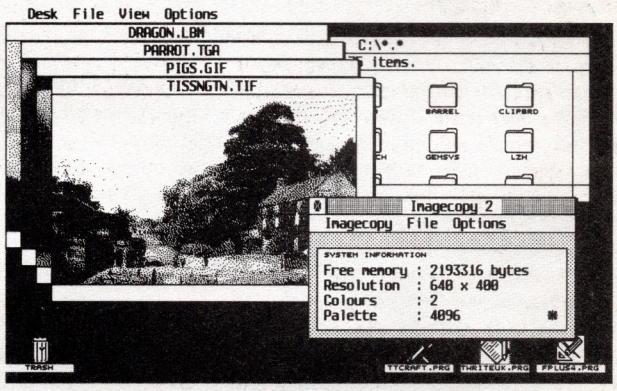
Copy images from screen in any ST/TT/Falcon video mode. Images can be copied by pressing Alt-Help, and a flexible rubber-banding system allows images to be selected with a fine degree of accuracy.

Display images in any ST/TT/Falcon video mode. Colour-mapping and dithering is used to display images in video modes which contain fewer colours. Several images may be displayed simultaneously in GEM-window or full-screen display modes.

Print images and screen dumps in black and white or colour on a wide range of printers, including 9-pin and 24-pin dot-matrix printers, Bubblejet printers, Deskjet, and Laserjet printers. Imagecopy 2 offers print-scaling, variable-sized halftones (up to 16x16) for realistic colour depth, and comprehensive colour controls, and is able to print images containing up to sixteen million different colours (24-bit true-colour). Print-colour options include: monochrome, CMY colour, CMYK colour, CMY separation, and CMYK separation. Colour separation modes can be used to print full-colour images on a monochrome printer.

Convert images between different formats (see next paragraph).

Extensive range of image formats: Imagecopy reads the following formats: TIFF, Targa, IMG, extended IMG, DEGAS, Neochrome, Art Director, Tiny, GIF, Spectrum, IFF/Deluxe Paint, Windows bitmap, OS/2 bitmap, PC Paintbrush (PCX), and Macpaint. Images can be saved in the following formats: TIFF, Targa, extended IMG, DEGAS, and RSC. TIFF support includes baseline TIFF apart from Huffman compression (uncommon), common extensions such as LZW compression, and the ability to read non-standard TIFF images produced by ST programs such as Retouche. The ability to print TIFF files allows Imagecopy 2 to be used as a print program with True Paint.



User-friendly GEM interface, including window menu bar, pop-up menus, colour sliders. Can be used as an accessory or stand-alone program.

Price - £19.95

Upgrades: from Imagecopy v1 - £10.00; from Imagecopy Colour - £5.00.

Return master disk only.

The ST Club
2 Broadway
Nottingham
NG1 1PS
Phone (0602) 410241

COMPANY PROFILE System Solutions AND Atari Workshop

by Dave Howell

East Dulwich is the new home of System Solutions, a company that has consolidated its position in the Atari market over the last few years. Their offices are purpose-built and serve as a base not only for their London operation but also as a home for the Atari Workshop.

I met Karl Brandt, Systems co-owner, one sunny Wednesday afternoon. He is confident and enthusiastic and talks with a deep understading about the Atari and general computer markets. I began by asking him about his own background.

Beginnings

The Atari Workshop and later System Solutions grew from a partnership between Karl himself and El Fernandes. They were both graduate electronic engineers and had both worked for various companies after they had completed their degrees.

The Atari Workshop grew from their radio servicing company that began trading in October of 1989. They only offered their services to the professional users of two-way radio such as taxi firms, VHF set-ups and security systems for councils, etc.

One of the companies that they were working at was developing a typesetting front end. Not that sophisticated, really, just for in-house needs. Karl was on hand as he had knowledge of micro processor design so that he could design his own circuits.

Gordon Drayson taking a well earned five minutes after a very busy morning at System Solutions.

Karl was working on the 6809 at the time as it was by far the most efficient chip of its kind, and more efficient than the 8088 or 8086. Then in 1985 the Atari ST was announced. At that time they were discussing the possible applications of the 68000 processor which had just arrived, and this was a very exciting development indeed.

Here was a computer with the new 68000 processor with half a megabyte of memory and a graphics display. At the time this was unheard of, and it was priced so that the home user could afford it.

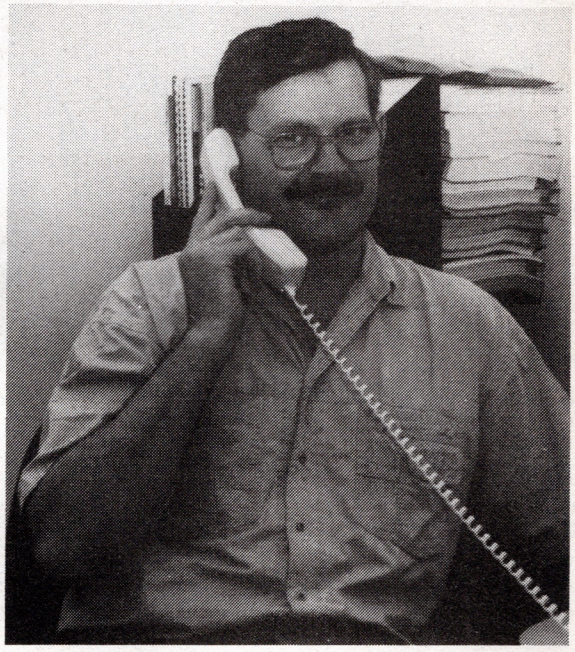
So in the Spring of 1986 Karl bought one. It was one of the very first 520's. He also decided that it was worth the extra money to upgrade the memory to a full 1Mb. Karl also wanted an external drive which were not available at that time so he ended up going to a computer junk shop and buying a couple of 720k drives and wiring them to the Atari with ribbon cables. It worked and his interest in the Atari grew from there.

He introduced the Atari into some of the companies that he worked at for word processing and database management. He and El also used it in their own servicing company to hold client details which were quick and easy to access.

Atari Workshop

In December of 1989 the Atari Workshop was born. By then Karl knew the machine backwards and decided that it would be fun to do something with a machine that he enjoyed working with. To advertise their new company they stood outside of one of the computer shows that year and handed out leaflets, something that the organisers took a very dim view of.

Karl was surprised at the response they got. As he told me:



Karl Brandt hard at work with another customer.

"After the first show we realised that there was in fact a market niche. There is a gap for a small company offering a specialist service, and we were surprised how busy we were.

"Being German, I was reading the German magazines a lot. I said to my partner, wouldn't it be interesting to put the Atari into a tower? This was in January 1990. So I ordered one. It took ages to come. When it finally arrived we thought, wait a minute, nobody markets this product. With the tower you have something on your desk that looks like a professional system. So we decided to market it ourselves.

"The Atari Shows of the late 80's were still being held at that time and Atari UK were looking for new companies that had new products. We had this small stand only three by two meters square. We were doing nothing but equipment for the tower: memory upgrades, hard drives, floppy drives, etc. We were just overwhelmed at the amount of business that we did. After the show we were selling over fifty towers a month!"

Atari Germany

I then asked him if being a German speaker gave him an edge when looking for new hardware and software for System and why so much quality software comes from Germany.

"What really made Atari in Germany is the fact that the Motorola 68000 micro processor technology is taught in schools and colleges. If you study micro processor technology you will not study Intel, you will study 68000-based systems. So you will find a lot of young people programming in machine code and in assembler and so on."

Teaching of computing in Britain is different. I asked if Germany had the same situation that we have where the educational market is dominated by two machines.

"No, not really. The BBC and the Archimedes are used for teaching in schools. In Germany the 68000 is used to teach micro processor technology. The colleges in Britain use the Archimedes but not for teaching the chip technology.

"This is also the reason why so many things are developed in Germany. This also goes hand-in-hand with other market forces. The fact that the German computer market is so much larger than any other country in the world. More computers are sold per head of the population in Germany than any other country, including the USA.

"It is a booming computer market. I don't know the exact statistics but if they have a five percent share in Germany they will get a heck of a lot more users than anywhere else. So that is one reason why Atari in Germany is so big. They are marketed well, they are marketed into schools, to colleges and to students. They are well represented and over the years they have built on that. That is what hasn't been done in the UK.

"In Germany Atari have the approach of a computer company marketing computer equipment. Rather than the approach we have in England where we have a computer that is an excellent games console, which is marketed for home use, for entertainment. In Germany if you look at the advertisements over the years it is to the student, or to the father that takes some of his work home with him. It has always been the more serious side that has been promoted.

"Then they brought out an official music pack. This was a 1040 STe with a keyboard integrated and software. This was an official Atari product. We have never seen anything like this in the UK. The Atari is seen as a professional machine that is cheaper than other systems but is capable of doing serious work."

Karl gave an example of this with the German package Calamus. This package has been marketed as a serious design tool and we now have a situation where there are a large number of German bureaux using Calamus on a professional basis. As he pointed out: *"You will often find designers in Germany who prefer to work with Calamus than one of the Macintosh programmes. If you use Calamus in Germany you have respect. If you use it in this country you have to fight for that respect."*

Advice

We talked further about the area of graphics and DTP on the Atari. I mentioned some of the shortfalls of the Mac system and the fact that this information is hard to come by when you are looking for a new system, the public being almost brainwashed into the belief that the Mac is the only system for DTP work. I asked Karl about lack of information in this field.

"This is a point that is very difficult to get over to the public. If you are in business you are in business to sell. You are in the business to make money. If a company doesn't make money it goes bust, simple. From that you could think that every saleman is corrupt, because they will sell for the sake of selling. This is true for many companies.

"I always get upset when I go shopping in central London. Basically all they want is your credit card or your cheque and they then want you out of the door. Genuine advice is hard to come by. The more sophisticated your requirement the harder it is to get good advice. I think this is true in the Atari market as in any other market.

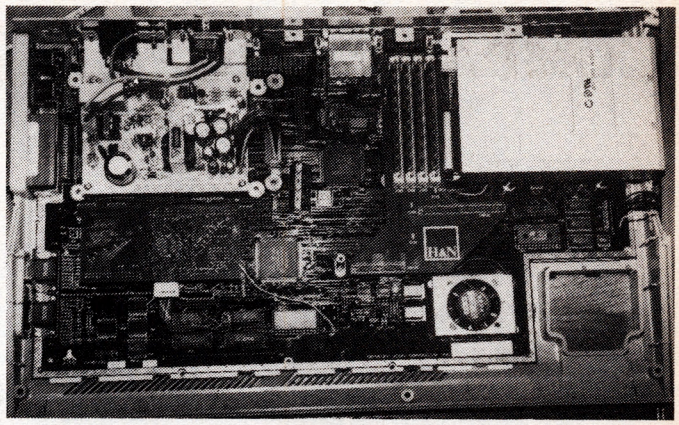
"I think a lot of people are surprised how knowledgable we are. Many people don't know that I have worked as a printer, and knowing the printing process is so important. People need to know how they turn their files on disk into colour printing. They want to know why they cannot do colour publishing on a 1040 ST. How can it be made efficient enough? What is more important, the type of software they use or the clock speed of the computer? and so on. Where do you get unbiased advice?

"I found that when advising people I got carried away. To some customers I will say that I cannot help them. I do not have the equipment to do what they want, and they have gone somewhere else. This is depressing but I think that this is what is necessary as there is no point in selling something for the sake of the sale, just to make the money, if you have an upset customer afterwards."

Support

I also asked Karl what he thought of the continuing trend in the computer industry regarding the amount of support that a new user will get and the level of knowledge of your average salesman in the high street. It is still the case that in many situations the buyers are left to fend for themselves after the sale.

"This is where the computer industry is going wrong. Everything is geared to high-volume box shifting, which means that there are companies out there who are selling product with margins below ten percent. At that level no business can afford to train staff and advise customers.



Falcon fitted with System's new Eagle Sonic 32Mhz accelerator. Also fitted with Falcon Wing, a 14 megabyte memory upgrade that should be available shortly.

"At those margins you cannot spend a great deal of time on the phone discussing why this programme is better than that one. Someone will call up and they will say that they want an Atari. They will get an Atari but they may be sold an ST when they should have had a TT for the type of work that they are doing."

I then asked asked about the kind of support that Atari users in general can expect when they buy a system. I mentioned that some firms do offer quite good support for a price. I also mentioned that it is sometimes the case that the software and hardware for the Atari is more expensive than that found on other platforms. The Atari market is a niche market and so a premium has to be paid by the Atari user because of this. Karl responded by saying:

"The fact is that that is not so. If you look at software and hardware sold in the Atari market you will find that it is no more expensive than other platforms. If you look at word processors or databases they are more expensive on other platform for the same level of sophistication.

"That is not so much what I am addressing. What I am addressing is the fact that there are box-shifters in the Atari market who will sell you what you want. You want a mouse - they will sell you a mouse; you want a monitor - they will sell you a monitor. What monitor it is doesn't matter. If it is wrong it's your problem.

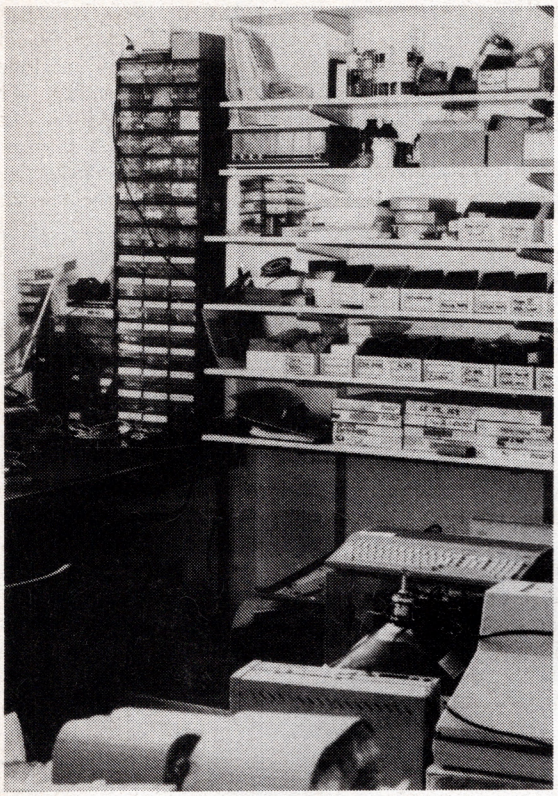
"If you come to us and we sell you a system, we will sit the customer down. We start with what you want to do, because that's important. You have to identify your requirements. We then work through and see what the budget is, what expansion you will want in the future.

"Then we can arrive at a compromise. We will offer a system that will suit the budget but that does the job. If you go to a box shifter you must have your shopping list ready. You need to be able to go to them and say that I would like one of those, one of those and one of those, only finding out if they will work together when you get them home. You open up the boxes when you get home, there is no mains plug and this is a Sunday afternoon, so off it comes from the toaster. That is infuriating.

"If you take our box and open it up, you will have all the adaptors that you will need already included. There is a very common one on the Falcon, the adaptors for the monitors get forgotten. If I sell a monitor I will ask if it is for the Falcon and if it is a new system I will not even ask as it will already be in there. I think this is an essential service. I think this is the difference between ourselves and the box shifters. It is very difficult to get across to the customer where they actually get more for their money. The advice they get from us can be worth hundreds of pounds."

Piracy

There were a few specific questions that I wanted to ask Karl about, the first being the fact that over the last few years he has moved more and more into hardware importing and seems to favour hardware products over software. I remember Karl was quoted as saying that this was a conscious move by him as piracy was becoming a large problem for him.



The Atari Workshop, a veritable Aladdin's Cave of Atari bits and pieces.

"The pressure of piracy is felt very much sooner in the Atari market as it is that much smaller. Piracy is theft, there is no question about it. The problem here is that if you steal someone's car it is obviously theft as you are taking something away. With software you are able to copy someone else's ideas and labour and make a perfect copy and there is no trace. Because this question isn't covered at school, at college and in the home, and as it does not do any physical damage, it is perceived as harmless.

"What it actually means is that it becomes more and more difficult to give full time employment to programmers. It is also very difficult to predict how much money a piece of software can earn. So companies hire programmers for fixed term contracts. I have many friends who are highly skilled programmers but who are not in full time permanent employment."

All of the software that has ever been released in the UK has had to deal with pirating. I asked Karl if the numbers I had heard were true. I had heard that there would easily be the same number of illegal copies of any programme as there are legal copies.

"I would put the figure even higher. If there are two hundred legal users there will be two thousand pirate copies. Admittedly of the pirate copies most of them are stored copies, neatly labelled in a disk box. They are never used, they are just there to brag about to your friends.

"Personally I think dongles are a pest, I hate them. But in the software and hardware business they are essential, they are necessary, otherwise you cannot protect the software. What I would like to see some work done on is the idea that each computer has an identity to the motherboard which is fixed. You can then read this identity and personalise software to it. It is not very difficult as all it would need is the hardware manufacturers' cooperation. We may well find that in the future one of the next Atari machines will have that."

Atari

Another question that I wanted to raise was a point that David Link of HiSoft elaborated on when I asked about the reputation that Atari had with its users. David made the point that Atari are not there to create markets for their machines.

They are a computer manufacturer and as such they must manufacture a product that will make them money. They have to target an audience to a degree hence the games machine image. But it is not their job to create other markets for their products. This is up to third party firms such as System Solutions to decide if they can be profitable by bringing in a particular title.

They have to decide if the Atari owner who is looking for something else to do with his or her machine will buy this new product and if so can they sell enough to stay in business. I asked Karl if he agreed with this point and his thoughts about Atari itself.

"Yes, I could do my bit of Atari bashing but it doesn't get us anywhere. A lot of other people do it anyway. Atari are not very good with public relations. They will not admit when they have made a mistake. What we have to remember is that everybody makes mistakes. That goes for all computer manufacturers, not just Atari. They all have release schedules for products that they never keep.

"A good example is Quark Express on the PC platform - what a disaster! But only the people who bought it know that it is a disaster. They handle the press and the public very carefully so that the problems don't get out. Atari doesn't do this, they just let it hang out. If anything happens it is all over the bulletin boards, in the Atari press and around all of the clubs. It is a very open system. To a degree this is actually good, because if there is a problem you know quickly.

"What I would like to see is a situation where Atari are more honest and say that, yes we know about this problem and we are working on it, there will be a fix and we will let everybody know. I think to some degree there have been changes since the Falcon was released. Some developers do get through and they do get information back. I don't think it is good enough yet.

"Developers need this information if they are going to produce third party add-ons in a set time schedule, to bring it out onto the market quickly. That has a knock-on effect of course, if the developers do not get the information their own predicted release schedule isn't maintained, so all the customers see is that a product is months overdue and still not here. This is definitely an area I would like to see Atari putting more resources into. More genuine support for developers. I think that would give customers much more confidence in buying a new computer."

Falcon

It has been said in the press that Atari have re-structured their whole operation over the last two years in the run up to the Falcon's release. Many have said that they are almost a new company again and look very similar to how they were back in 1985 when they released the first 68000 machine. I asked Karl if he thought that this would in effect put Atari back on the map as a major force in personal computing.

"I don't think you can turn the clock back. There is no question that the Falcon is a revolutionary product, the digital switching matrix alone, the fact that you have a DSP built into a home computer is very exciting. It is not the same as the old ST. It is not the same period. Technology has moved on a lot. I don't think that the Falcon by itself is important enough for Atari for their future development."

I asked then if he thought the Falcon was a stopgap for Atari, or would it at least maintain their niche in the market.

"I don't think it is a stopgap, I think the Falcon is the next computer in an evolution of computers in the Atari range. What I would like Atari to do is bring out high spec systems quickly. I think that Atari are neglecting some of their audience. The people who are at the moment using them in small business, in studios and in design agencies may well be considering moving to a high spec system as their business now demands it."

If that is the case, I asked about the history of the TT. Many have said that if the machine had arrived some two years earlier and was half the price it would have grabbed a large part of the high-end market.

"If the TT had come out shortly after it had been announced, even as a 16Mhz machine, at the same price it was launched at it would have made a much larger impact. What is important from the point of view of the UK is the point that if these computers were marketed properly they would do well.

"Many companies do not know about the capabilities of these computers. Even today if you say have you heard about the TT when I discuss requirements for DTP many people say what is that? This is simply because Atari have had little intention of pushing this computer as their emphasis has always been on the 520 and 1040 machines."

Atari has always been a niche

market. I asked if he thought that this would ever change. We know that the software that is available for the Atari range is equal to and if not better in some areas than that found on the Macintosh and PC platforms.

It will probably never be the case that any new buyer of a computer could walk into a branch of Dixons and see an Atari and a Macintosh side-by-side. I asked if the Atari would ever gain the respect that the other platforms enjoy at the moment.

"What could happen is that there is a hi-spec Falcon appearing in Dixons. The capability of the machine will surprise customers. There will be a situation that has always existed in the Atari market where someone buys it for a particular purpose, e.g. for music sequencing and then they realise they can do their word processing with it. They can also get a database and put all of their names and addresses on it. Then they discover graphics and so on.

"We have many customers who are musicians or people who run production companies. They can do their music, and then their CD labels with Calamus - beautiful stuff. And all on one computer. I don't think in the graphics market that the Falcon or the TT will ever be a threat to the Macintosh. What people will realise is that these machines are very efficient and are capable of doing anything that you would want, and that they are a real alternative."

System Solutions

I then asked Karl how he saw System Solutions in the market place. How he had positioned the company and how he saw it developing over the next few years.

"I see our company as service orientated. We run two workshops, one here in London and one in Windsor. We do a lot of repairs. We also customise a lot of equipment. We do sell systems but we don't like to shift boxes as such, with low margins and little support. Yes, if someone wants a hard disk we will get them a hard disk. We are proud of our hard disks as they are manufactured to a high standard.

"How did we survive the recession? Basically with a lot of hard work and with a lot of personal commitment. But also with a tremendous amount of support from our customers. Many customers don't come once, they come back again and again. That is very satisfying to see that customers are happy to come back.

"Yes, we will grow, we would like to grow and also to attract staff that are also as committed to Atari and committed to the quality of service we are ourselves."

Future

I asked Karl where he would like to see System Solutions in a few years' time.

"We do plan ahead to a degree. I have often been asked about the rumours that Atari may go bust and where I would stand if this happened. My opinion is that if there was no new Atari equipment available there will be clone manufacturers. It has already been announced that there is a TT clone under development in Germany, so we are very interested in handling that. There is something else about which I cannot really talk. There is also a clone available from Switzerland, The Medusa. It is a 68040-based system.

"Even if Atari was to withdraw from the computer market there will still be millions of Atari users who will not throw away an excellent piece of hardware just because the company that made it has gone bust. It is like a car. If the manufacturer goes out of business there will still be spares available for it.

"As for us, as we are service orientated we will still have spares, we would still do repairs and up-grades. That would last for at least another two to three years, until the computer system is out of date.

"We always look at the computer market with an open mind. We may possibly market products in other platforms, but we will always stay an Atari specialist as this is the area we really know well.

"We started in 1989, we didn't know that the recession started then. It took about a year for the recession to reach the consumer market. We felt the recession first in the professional radio market. Despite the recession we have gone from a 'no-product' company to one that imports a whole range of products from America and Germany.

"We have moved to a larger worshop and the new Desktop Centre. This is purpose built as it was just a shell when we moved into it. It had no lighting or gas or electricity. We invested heavily last year and now have a show room and reception area. We have gone from a small 'two-man-band' to a company that has two sites and is employing people, and we are looking forward to employing more professionals."

Atari Press

My last question was about the Atari press itself. I asked Karl if he had any thoughts about this, especially regarding ST Applications.

"Applications may not have the circulation of many of the other High Street magazines but it is read by the most discerning Atari users. They use their Atari machines critically, they are always out to improve what they are doing.

"It has a very interesting readership. I remember the ST Club in the early days. I should think I am one of the first members. I have still got the photocopied newletters. It is a magazine where people have a forum, and that is important. It is where people can speak their mind without having to contend with the commercial pressure the mainstream magazines have to. This is a very important point, as we know that many of the mainstream magazines have kept out of the press many of the problems that have existed with some companies."

With that Karl had to get back to the office as I had picked one of their busiest days to conduct this interview. System Solutuions look like they will go from strength to strength. They have many new products in the pipeline and were testing some of the new hardware up-grades for the Falcon when I was there. They will however continue to provide their excellent service for people who have a standard 520 ST all the way up to those who are using TT's for professional colour design.

I would like to thank Karl and his staff for making me feel very welcome and to wish him the best for the future.

System Solutions/Atari Workshop are:
London:
Karl Brandt - Co-owner of Atari Workshop & System Solutions.
Gordon Drayson - Assistant Manager & Blackwater BBS SySop.
Windsor:
El Fernades - Co-owner of Atari Workshop & System Solutions.
Sarah - Receptionist.

Products

Atari Workshops stock and supply a wide range of hardware and software for Atari computers. Some of their most popular products include:

Falcon Products

NVDI V2.5	£49.95
FalconWing:	
FalconWing - 0Mb	£59.95
FalconWing - 4Mb	£269.00
FalconWing - 14Mb	£799.00
BlowUP030:	
BlowUP Software	£15.00
BlowUp Hard 1	£49.95
BlowUp Hard 2	£69.95
SM14F	£129.00
68882FPU	£69.96
Falcon Tower:	
Falcon Tower Kit	£179.95
Keyboard Kit	£39.95
Replacement MegaST Keyboard	£79.95
Hard Disk Kit inc PSU	£129.95

ST Products

Mono Monitors:	
SM14	£149.95
SM14s	£169.96
High Density Module:	
elCO High Density Kit	£39.95
High Density Drive Kit	£79.95
Keyboard Kit	£49.95
Hardware Accelerators:	
T28 Accellerator	£199
T36 Accellerator	£299

TT/MegaSTe products:

128Mb TT FastRam board	£229
Crazy Dots 2	£399
NVDI V2.5 Crazy Dots	£79.95
elCO Fan controller	£19.95
Low noise Fan	£19.95

A DIY Hard Disk for ST and Falcon

Now that the Falcon has arrived with a SCSI-2 port, hard disks should become very inexpensive. If you are thinking of upgrading to a Falcon in the future, but still want a hard disk for your ST, it is now possible to build one which is compatible with both machines so that you can upgrade without having to part with your hard drive.

Let's start with the common items. All Atari hard disks (except internal Falcon ones) consist of a SCSI drive unit. These come in any size from 20Mb up to several Gbytes so there are plenty to choose from! All modern SCSI drives have their controller built in. If you are building your own drive you can usually get many more megabytes per pound than with a ready made version. You can also build in as much expansion potential as you wish. The second requisite is a power supply. There are many switch-mode units around now which can be had for £10 to £20. These can supply enough current for most 3.5" hard drives and many 5.25" ones too.

Where the Falcon and ST differ is in the interfacing requirement. Strictly speaking, the Falcon needs no special interface having a connector in common with Sun workstations and the like. However, a suitable lead can be quite expensive. To make a universal hard drive it is necessary to site its SCSI connection on the outside of the box. This can then be connected via the connecting lead to a Falcon or via ICD's 'The Link' to an ST.

Shopping list

Before a decision can be made on whether it is worth building your own drive, it is necessary to know what is needed and how much it will cost. Both a home built drive and a bought one carry an equal risk if it breaks. Your data will be completely lost unless you have a backup. A 12 month guarantee will not bring your valuable data back however much you shout at the supplier! If you construct your own and become familiar with its workings, you may be able to build a box containing two or more drives, reducing the chances of losing the whole lot at once.

Comparing the prices in Table 1 with a Power computing 80Mb drive at £399 or a Gasteiner 127Mb at £445 and you can see that it is possible to save quite a bit of cash! The 105Mb Quantum Prodrive above is a really nice drive removed from a workstation in 'unused' condition. If you are prepared to scour the pages of MicroMart it is possible to pick up a real bargain SCSI drive. A 20Mb drive can be had for as little as £30 while 85Mb drives often sell for £70-£90.

As well as making drives for the unadventurous, Ladbroke Computing can supply either 'the Link' at £89.95 or a Falcon SCSI cable at £39.95. Gasteiner can supply everything to make your own drive but the costs are a little higher than a full DIY job.

A (hard?) Case Study

In order to illustrate how a drive is built up, I shall go through the motions of building a drive which can be used for ST or Falcon. I happen to have a spare Seagate ST157N 48Mb drive from my Mega STE so this will be the starting point. A drive such as this can be had second hand for about £60, or £150-ish for a new one. Whether you are buying new or second-hand, make sure you get a drive which can have 'parity disabled' - this is most important when connecting to a Falcon or to an ST via 'The Link'. Parity setting is usually done with a small jumper on the drive controller board next to the SCSI address jumpers. Look for a pair of pins marked 'EP'. Seagate drives have their jumpers next to the 50-way SCSI connector while others, such as NEC and Quantum, will have them on the face of the controller board.

Having located a drive we need a power supply unit. We need both 12v at around 1.5 amps and 5v at approximately 3 amps. Many modern drives will operate on considerably less than this, but we may want to add another drive later. J.A. Crew and Co. have some nice 30 watt Astec units for £11.50 and so I will use one of these in my drive.

Next comes a box. This will depend upon your preferences for where you want to put the drive and whether you are planning to put more than one SCSI drive in it. I am going to be a real cheapskate and go for the smallest box which will house the components. I am going to use my 47 Mb drive as a backup unit for my Mega STE drive so it will not be used for long periods. Consequently I am not going to fit a fan. My drive and PSU will just squeeze into a Maplin steel instrument case, order code XJ29G at £7.45! (Fig 1)

While we are at Maplins, we need connectors for the SCSI data cable. A 50 way IDC connector is needed for the back of the drive. I shall connect this to a 50-way Centronics connector on the back of my box via 50-ribbon cable. 30cm of cable will set us back £1.16 while the two connectors, FA40T and JB58N, are £2.25 and £3.25 respectively. A power connector, JW65V, will also be needed at 48p. Our trip to Maplins has set us back £14.59. Throw in £1 or so for wire in yellow, black and red (standard drive power supply colours) and we are away. Hi de Hi! If you are feeling really adventurous you might want to buy an LED for drive access at around 15p with a panel clip for 6p. An on-off switch would be nice too.

Now, before you touch any part of you hard drive, remember that it is sensitive to static electricity. Make sure that you are not carrying any static when you touch the drive. This can be done by connecting yourself up to a good earth with a good wrist strap (Maplins FE29G is OK). Try and work on a conductive surface. A roll of Bacofoil is handy and can be earthed.

Before you can assemble your kit of parts you will have to mark out and drill holes for mounting the various parts. Holes for mounting the drive, power supply and LED are relatively easy, if you mark them out carefully. The 50-way Centronics connector is a little harder as it requires a square hole. This is best done by chain drilling around the edge of the hole, then filing the sides to tidy it up. The mains cable will need a strain relief bush and so a suitable hole must be made for this and the switch. (Choose one that needs a round hole and you can avoid the filing!)

Once all the holes are drilled and the bits fit satisfactorily you can begin the assembly job. Make sure there is no drilling swarf left in the box as this could play havoc with the electronics. The SCSI drive will need 4 no 6 UNC screws to hold it down. Check that the circuit board is clear of the case when screwed down. If not, use nylon washers to pack it up. The power supply should be treated similarly but bear in mind that this will have 240 volts on it and so should have a good 6mm clearance from the case.

To make up the SCSI cable you will need a vise wide enough to take the connectors comfortably. Make sure that the 50-way cable lies square to the connector and that pin 1 on each connector lines up. This may be marked by a '1' or a small arrow. Once the cable and connector are lined up they can be given a good squeeze in the vise. Make sure that your connectors are pointing in the right direction, or you will end up with a nasty twist in the cable.

Before connecting the drive to the power supply unit make sure that it is giving the correct voltages. Standard hard drive connectors usually have a similar colour code. Red is +5v, yellow is +12v and black is ground. See Fig 2.

Connect up the drive activity LED if required. Some drives have an inbuilt LED. This can be carefully removed and replaced with a remote one if the wires are extended. Note the polarity of the original when connecting up. If the LED has a flat on it next to one of the connectors, then this is the negative terminal.

Having got all the parts in the box, check the connections through again. It is better to waste a little time now than observe your handiwork going up in smoke as you switch on! It is now time to power the beast up. You should hear the drive spin up and then settle to a gentle whir. If all is well switch off and connect the drive up to your computer. If you have an ST connect the Link to the 50-way Centronics port and the DMA cable into the ST. Put the ICD disk in the drive, power up the drive then switch on the ST. IF all is well you will see the welcoming ICD startup message. Isn't life wonder-

ful! Now is the time to sit down with the excellent ICD software and enjoy setting up your drive.

The excellent ICD utilities guide you through formatting and partitioning the drive, and will tell you if it has any bad sectors. RATEHD will tell you how how quick your drive is, and BOOTFIX is particularly useful for sorting out drives which won't autoboot properly the first time they are powered up.

ICDBoot will tell you which SCSI address the drive is located at. You can usually alter this by adding or removing jumpers from the SCSI address block on the drive. This block is arranged as three pairs of pins which can be shorted to give addresses in the range 0 to 7. SCSI address 0 is usually obtained with all jumpers open, address 7 with all fitted.

What if it doesn't work?

Switch off and check back through all your connections.

Some points to look out for:

* Are the 50-way connectors seated properly?
* Does your drive have parity disabled? Some drives cannot have parity disabled.
* When powered up, does the drive supply +5v on pin 26 TRMPWR) of the SCSI connector? The Link needs this supply for its electronics. Not all drives supply it.

In Conclusion

Much has been said about about the futility of building your own hard drive. If you add up the prices in the Gasteiner list, they come to more than the cost of an equivalent new, guaranteed drive! If you shop around though, and find the experience interesting, you can save money and gain some education. I recently built a drive around a used Quantum 105 Mbyte drive and second-hand ICD adSCSI host adapter with clock. Total cost was less than £200 for a very quiet, fast drive. If you are really lucky you can get a smallish, second-hand ST drive which can be upgraded with a larger SCSI unit. Once you have the confidence, the sky's the limit. Have fun!

Useful Addresses

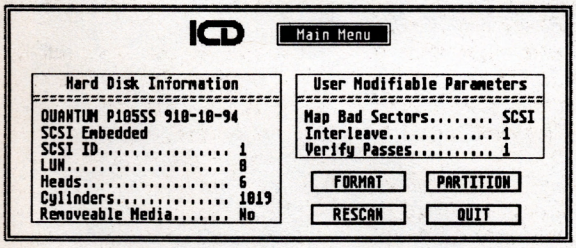
Maplin Electronics, P.O. Box 3, Rayleigh, Essex SS6 8LR - All Manner of electronic components and tools.

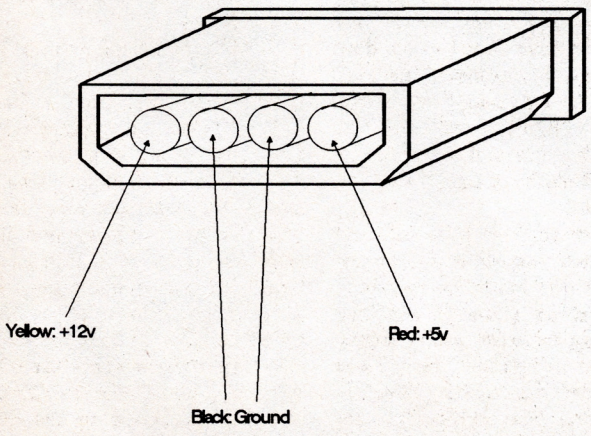
J.A. Crew & Co., Watery Gate Farm, Dovers Hill, Chipping Campden, Gloucestershire GL55 6QU - Surplus electrical & mechanical components

Bull Electrical, 250 Portland Road, Hove, Sussex BN3 5QT - Surplus electrical components.

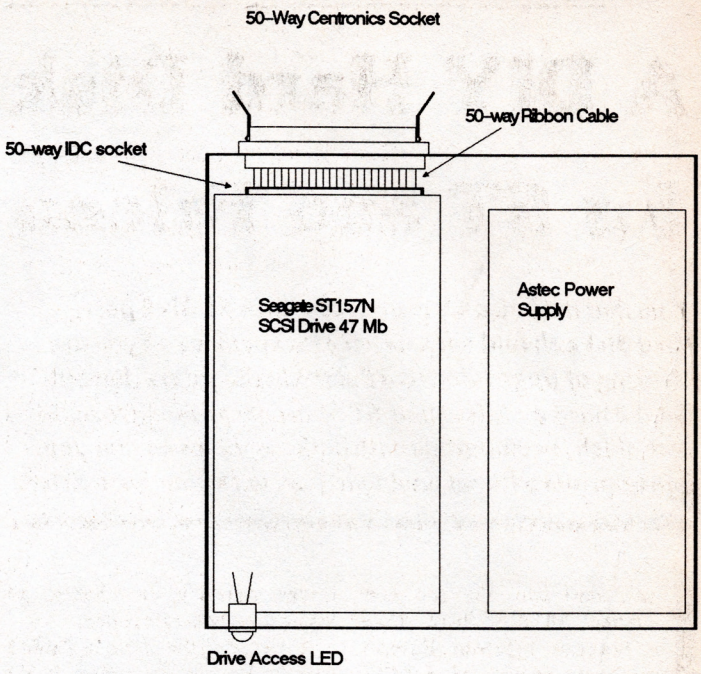
Gasteiner Technologies, Unit 2, Millmead Business Centre, Millmead Road, Tottenham Hale, London N17 9QU; Tel: 081 365 1151; Fax: 081 885 1953.

Ladbroke Computing, 33 Ormskirk Road, Preston, Lancs. PR1 2QP; Tel: 0772 203166; Fax: 0772 561071.

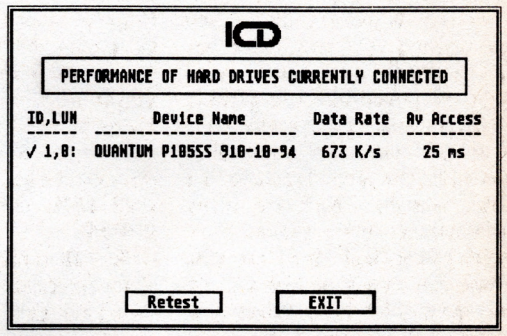


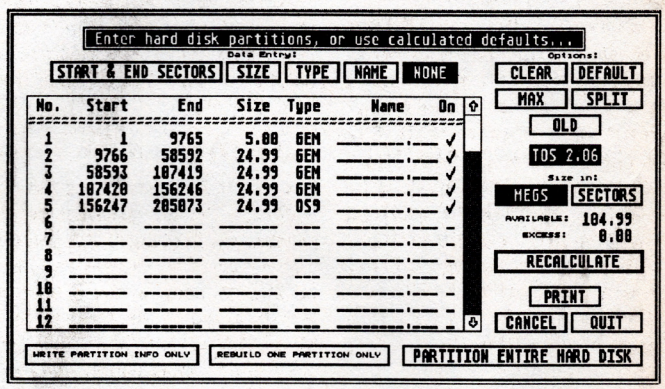


Drive Power Connector



Arrangement of Seagate ST157N Hard drive and Power Supply unit in Maplin instrument case.





Costs for various items

	DIY ST drive	*DIY Falcon Drive*
Quantum 105Mb Drive	£145	£145
Power supply	£15	£15
Case	£15	£15
Connectors/Cable	£10	£10
The Link	£90	-
SCSI-2 Cable	-	£40
ICD Pro Utilities	-	£40
TOTAL	**£275**	**£265**

SpeedoGDOS and Timeworks Publisher 2

Robin Gape

The September 1993 issue of Atari ST Review suggests that it is possible to run Timeworks Publisher under SpeedoGDOS. But if you try this trick with the latest version of Publisher it refuses to work. What gives?

Versions

Timeworks Publisher ST 2 exists in 2 distributed versions. These are:
a) version 2.00, with associated version 2.00 of the Fontwidth program
b) version 2.00a, with associated version 2.01 of the Fontwidth program

Fontwidth

Version 2.00 works fine under Speedo GDOS, and produces good width tables. Version 2.01 bombs out under Speedo GDOS, though it is fine under ordinary GDOS or G+PLUS. (Tested with TOS 1.02)

Publisher

Version 2.00 is happy with Fontwidth 2.00 width tables, as is version 2.00a of Publisher. Both of these versions have a small problem with printing, which can be solved by placing an opaque frame, as large as the printable area, as the undermost item on the master page (or pages). Otherwise, there is print breakthrough from one page to the next: the test card shows this.

Version 2.00a of Publisher offers better handling of doubled point sizes.

Speedo GDOS

Set Speedo's preset point sizes for the range of sizes that you intend to use. Turn width tables off. The effect of having them on is that Timeworks takes forever to load, whether they have been precomputed or not.

Bullets

To get the correct bullets, Speedo's ASSIGN.SYS file must have the original Publisher bitmapped Zapf Dingbat fonts installed into it. (Or, you can use the Hallbats bitmapped fonts from ST Club disk FON.147). If you have compressed the fonts with Trimfont then they must be decompressed to use with Speedo.

Timings

With the default set of 14 fonts at point sizes of 7, 10, 12, 14, 18 and 24 points Fontwidth 2.00 takes about 11 minutes to run on an 8 MHz ST. This is because Speedo has to render each font at each point size requested. The more fonts and the more point sizes the longer it takes.

Suggested Procedure

1. If you do not have font width version 2.00 on your system, then you need to install it from floppy disk. ST Review suggests installing for minimum fonts and an Epson FX-80 printer, as that's quickest. This is fine if you already have the bullet fonts for screen and the printer(s) that you will use. If you do not, then install for the printer that you will use and ask for all fonts to be installed.

If you already have Publisher version 2.00a/2.01 on your system, then secure it. Be aware that the Publisher install procedure always installs to a folder called PUBLISH on the disk chosen.

2. Tidy up:
a) if you need the Zapf Dingbat files delete all files apart from the Zapf Dingbats (ZDB... files) from the GEMSYS font folder, and copy these to the same folder the Speedo printer drivers are located in;
b) delete the PUBLISH\GEMSYS folder;
c) and do any other tidying required;

3. Set up Speedo GDOS:
a) with all the outline fonts to be used, with appropriate point sizes for each font (use Speedo's outline accessory or program);
b) with bit mapped bullet fonts allocated in the ASSIGN.SYS file (see above);
c) with a suitable printer driver chosen, set up for the correct paper size (use Speedo's driver accessory or program);
d) set up the print area offsets to On to allow different printers to be used with automatic compensation for printing margins

4. Consider the point sizes carefully. You are unlikely, for instance, to need VAG rounded at any size under 14-point. The original Timeworks used a 3-point Swiss screen font to minimise greeking.

5. Save the ASSIGN.SYS and EXTEND.SYS files that have been set up into a folder so that they can easily be restored in case of accidents.

6. Reboot the system.

7. Run the Fontwidth program. Click on the SORRY button when font width informs you that FSMGDOS is not supported. Select your printer and then OK. Font width produces width files SCREEN.WID and PRINTER.WID that match the current Speedo configuration. It is wise to save the width files corresponding to a given pair of ASSIGN.SYS and EXTEND.SYS files.

8. And now run Publisher!

9. If you change the Speedo font set up, it will be necessary to return to stage 6/7.

Font Attributes

It is advisable not to use the italic or bold font attributes from the font menu. Instead, select the corresponding italic/oblique or bold font. This means that imported text with these attributes will require manual amendment to select the appropriate font, when Speedo is used.

Advanced use

Of course, you can install the original Publisher bitmapped fonts in the same manner as given above for the bullet fonts if you wish. But if you do, watch out for clashes of Font identification numbers. The back of the Publisher manual gives the identification numbers for those supplied with Publisher. The font identification numbers for Speedo fonts are (probably) the last 4 digits of the file name, before the full stop.

PostScript use

If you want to print to PostScript, then Speedo GDOS is no use, and you must either use GDOS or G+PLUS (or presumably AMCGDOS) with the Publisher supplied PS.SYS driver where the fonts (and the full set of Zapf's Dingbats) are hardwired in. (See Bob Osola's article in ST Applications 33, September '93). If you need the flexibility to use both Speedo and PostScript, then the use of a boot manager such as XBoot III or Superboot is strongly recommended!

And where does the correct version come from?

The original distributed Timeworks Publisher 2 was version 2.00. The upgrade to version 2.00a did not require return of the master disks, so you may well have both versions 2.00 and 2.00a of Publisher 2. If you only have access to version 2.00a then there is a problem.

OLD ASSIGN.SYS

```
PATH = I:\SPEEDO
1P SCREEN.SYS
2P SCREEN.SYS
3P SCREEN.SYS
4P SCREEN.SYS
5P SCREEN.SYS
6P SCREEN.SYS
7P SCREEN.SYS
8P SCREEN.SYS
9P SCREEN.SYS
21 SLM.SYS
31 META.SYS
61 MEMORY.SYS
```

NEW ASSIGN.SYS

```
PATH = I:\SPEEDO
1P SCREEN.SYS
zdb007rm.vga
zdb010rm.vga
zdb012rm.vga
zdb014rm.vga
zdb020rm.vga
2P SCREEN.SYS
zdb007rm.vga
zdb010rm.vga
zdb012rm.vga
zdb014rm.vga
zdb020rm.vga
3P SCREEN.SYS
zdb007rm.vga
zdb010rm.vga
zdb012rm.vga
zdb014rm.vga
zdb020rm.vga
...etc. etc...
21 SLM.SYS
zdb007rm.b30
zdb010rm.b30
zdb012rm.b30
zdb014rm.b30
zdb020rm.b30
31 META.SYS
61 MEMORY.SYS
```

EXTEND.SYS

```
; Speedo Configuration File
; Last modified on 10/10/1993 02:33
; PATH = I:\SPEEDO
BITCACHE = 51200
FSMCACHE = 593920,5
WIDTHTABLES = 0
FONT = BX000630.SPD
POINTS =12,14,18,24,28
FONT = BX000013.SPD
POINTS =7,10,12,14,18,24,28
FONT = BX000014.SPD
POINTS =7,10,12,14,18,24,28
FONT = BX000012.SPD
POINTS =7,10,12,14,18,24,28
FONT = BX000011.SPD
POINTS =7,10,12,14,18,24,28
FONT = BX000596.SPD
POINTS =7,10,12,14,18,24,28
FONT = BX143219.SPD
POINTS =7,10,12,14,18,24,28
FONT = BX000362.SPD
POINTS =12,14,18,24,28
FONT = BX000003.SPD
POINTS =3,7,8,10,12,14,18,24,28
FONT = BX000005.SPD
POINTS =7,8,10,12,14,18,24,28
FONT = BX000006.SPD
POINTS =7,8,10,12,14,18,24,28
FONT = BX000004.SPD
POINTS =7,8,10,12,14,18,24,28
FONT = BX019831.SPD
POINTS =7,10,12,14,18,24,28
FONT = BX000756.SPD
POINTS =12,14,18,24,28
```

△ The Timeworks Bullets fonts (bitmapped) have been placed in the standard Assign.Sys file, whilst the rest of the fonts (the Speedo ones) are listed in the Extend.Sys file (right), along with the installed point sizes.

Shoot More Bullets into your Text!

Mike Hutchinson explains how to install an improved Bullets font for use with Timeworks Publisher 2...

A simple and very effective way of enhancing the appearance of your DTP presentation is by using Bullet symbols. These can be defined as part of a 'paragraph style' to appear at the start of each paragraph when the character chosen will precede the block of text. Alternatively they can be inserted in your text by a rather inelegant piece of programming. Select the Dingbat font from the 'Font and size' menu and then type in the required 'Char. No.' in the 'Edit' menu. Using this method the bullets can be placed anywhere in your text.

In the ST version of Timeworks Publisher 2 this facility is somewhat limited because only fifteen symbols from the ITC Zapf Dingbat character set are currently available for use. This is a somewhat curious restriction because when the screen and fonts labelled 'zdb' are examined using Fontkit Plus 4 the printer fonts are incomplete as expected whilst the screen fonts appear to be very much more extensive. They show, in the .VGA configuration used to display them on the hi-res screen, almost 200 different symbols! Only when a character appears in both the screen and the printer font set is Timeworks 2 able to match the two and produce the goods.

If you are familiar with Fontkit Plus 4 you will know that it has the ability to convert fonts between formats with ease. However, there are some points to be borne in mind. It is fine when a large dpi (dots per inch) font, such as would be used by a laser or a 24-pin printer, is converted to a lower definition one such as would be used in a screen display. Some detail will inevitably be lost in the conversion. Alas, it does not work the other way round because there is not sufficient detail in low definition fonts for them to satisfactorily produce quality printer ones. Because of this the Zapf Dingbats screen fonts concealed in Timeworks cannot be upgraded by simply converting them.

Help is at hand by the use of a recently issued Public Domain disk available from The ST Club (FON.147). The character sets on this disk increase the number of bullets available to you to 180 variations. Ian Glover has taken a HALLBATS Bullet font, which previously appeared on a Calamus font PD disk, and converted it to GDOS format for use in Timeworks 2. This alternative character set does not match the original Zapf set, although a number of similar symbols do appear in both versions. It is therefore best to remove all the the existing Zapf font sets and replace them with the Hallbats ones.

The text file on Ian's disk does explain how to do this although he is not altogether accurate in his description of the disk contents. The version under review is also restricted to supplying the appropriate fonts for use on a medium resolution screen, a colour monitor or a TV, and a Canon BJ10ex printer. The fonts are not compressed as implied in the text. Thankfully the original Calamus font (300x300dpi) is included on the disk so with the aid of Fontkit Plus 4 I was able to produce an 80x80dpi font, required for a hi-res monitor display (.VGA), to replace the 80x40dpi one. I have also been able to create a set for use with an EPSON 24-pin printer. These sets may become available on an upgraded disk.

Installation of the fonts is a simple matter of copying them into your existing GEMSYS file. If disk space is a problem you can delete the Zapf 'zdb' files at the same time. You will then need to change the ASSIGN.SYS file. To do this it has to be loaded into a text processor or a word processor in ASCII mode. I have had a great deal of difficulty using First Word Plus for this operation even in the ASCII mode. I now use an excellent text editor called EVEREST which recently appeared on the cover of an ST magazine. You must now delete the Zapf filenames, or alternatively place a semi-colon at the beginning of the lines listing them to make them inoperative. You then add the 'HALxxxRM.xxx' file names to the list. In the process of conversion Ian Glover has changed the ID number of the fonts to 129 so that they directly replace the ones you have discarded.

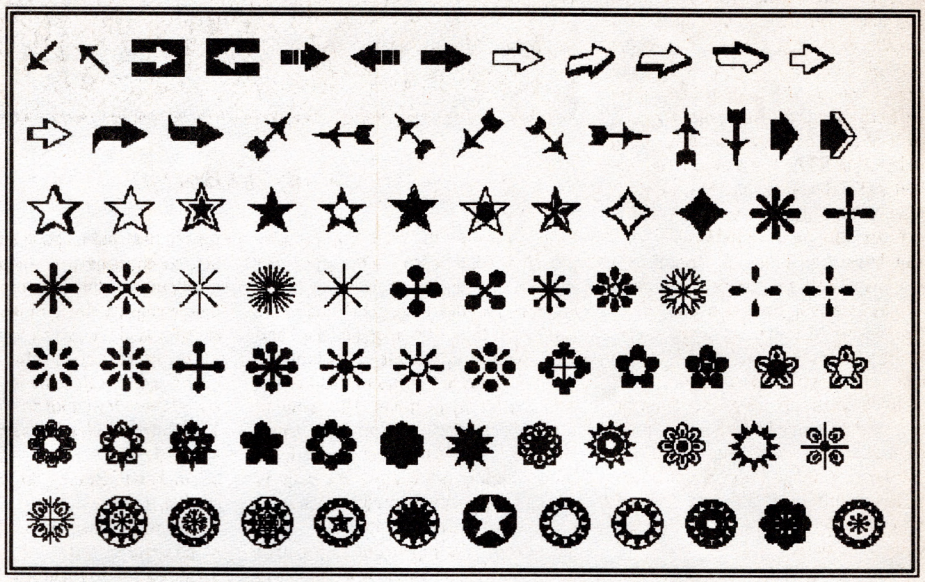
If the fonts are to be used with a computer with floppy drives only you will not be able to install them on the FONTS disk because of lack of space. Your only option, after deleting all the original Zapf files, is to also lose a typeface or two. For most practical purposes it is probably sufficient to install only one or two point sizes of the new bullets fonts anyway. If you are using an Epson type printer the definition of some of the symbols will be limited because of the 180x180dpi restriction. A few moments with a calculator will enable you to determine how best to use the capacity of your FONTS disk.

Before you run Timeworks 2 you must be sure to reboot your system and run Fontwid.Prg which will produce the new font width files. This is very important and easily overlooked. All these instructions are given in greater detail in the text file on the disk.

Now you can run Timeworks 2 and, if all is

well, see the improvement. As a test to ensure that the new fonts are working load CHARLIST.DTP from the disk and print this document. You will now have a sheet showing the entire HALLBATS font together with the appropriate character numbers. When in Paragraph mode call up the Options form. You should now see some of your new bullets displayed in the usual place. If you click on the arrows you can scroll through the entire range of new characters and then click on the one you wish to use in your paragraph style.The results from this disk are excellent and it will prove to be worthwhile updating your existing program, particularly as GST appear to have abandoned any further *major* updates of Timeworks 2 for the ST.

Product:..... Hallbats fonts
From:..... The ST Club
2 Broadway
Nottingham
NG1 1PS
Tel:..... 0602 410241
Price:..... PD disk FON.147



△ A selection of the 18pt Hallbats symbols, shown here as a screen grab using 'Show font' in Fontkit Plus. They are *not* printed to scale.

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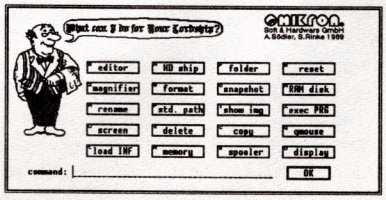
- Mortimer is memory resident and available at all times from within all programs. When installed, Mortimer reserves just 64K of RAM - all Mortimer functions are linked to a sophisticated memory manager.
- Mortimer version 1 is compatible with all TOS versions up to 1.62. The MegaSTE, TT and Falcon version - Mortimer DeLuxe - will be available December.
- Supplied with a very comprehensive 82-page printed manual.



Price: £14.95

The ST Club
2 Broadway
Nottingham
NG1 1PS
Phone (0602) 410241

EASY PLANS!

by Keith Berry

If you bought issues 14 and 15 of ST Review magazine you will have acquired on their cover disks two really useful graphics utilities in the form of Easy-Draw v2.65 and Easy Tools. I cannot make the usual disclaimer here though because, directly as a result of my Easy Draw Tutorial being published in STA 31 and 32, I was invited by ST Review to write tutorials for both of these "give aways."

I was, of course, quite familiar with Easy Draw but I had not previously seen Easy Tools and had a fairly frantic few days learning how to use it before commencing the articles and sample pictures. There was an initial burst of panic too when I discovered that it wouldn't work properly when loaded from my hard drive by Superboot in the usual way, but I eventually found that all was well as long as Superboot loaded the Easy Tools accessory and returned to the Desktop so that Easy Draw could be run from there.

With the deadlines met and the articles and pictures despatched, I have had time for a more leisurely look at this interesting combination and I have to say that I continue to be impressed.

Easy Draw on its own can produce effective GEM vector drawings with relative ease once you have put in the essential practice time, and I find that I can return to it after a long interval and draw with it immediately, so intuitive has it become, to the extent that I prefer it to any bit image utility. The resulting .GEM file is always surprisingly small. Drawing to scale, however, is restricted to measuring off against its built in screen rulers - graduated in inches or centimetres depending on whether you have chosen an Imperial or metric page size - and object rotation is limited to 90 degree steps.

The addition of Easy Tools changes all that. Inquiz can set your chosen object to a desired overall size, Angulator can measure existing angles or allow you to envisage the effect of possible rotations and the Rotator function not only enables a single object to be tilted at any angle but can make multiple copies of an object (after it has been converted to a Polyline if necessary) in any of these formations:

1. Identical copies in a straight line at any angle
2. As 1, but tapering in size, larger or smaller
3. Identical copies but rotated evenly about a chosen axis
4. As 3, but tapering in size
5. As 3 or 4, but in the form of a spiral.

These extra functions make Easy Draw eminently suitable for scale drawings or plans, and in the garden path drawing I made extensive use of the Rotator, not only for the circular paths but also for copying a single round-cornered rectangle to produce the straight paths. Similarly, a drawing of a few twigs were rotated to represent trees.

The room plan, purely imaginary as was the garden path design, was drawn at 1 centimetre to the foot upon a room-sized rectangle that had been set with a one centimetre grid pattern using Inquiz. This made scale drawing and positioning the furniture and fittings very quick and easy. Upon completion, the rectangle was erased with a single keystroke - try doing that with a bit-image! The circular rug was, as should be expected by now, created with the Rotator, using Centre and Middle from Easy Draw's Arrange menu to ensure that the circles were all concentric. A single chair was copied twice, one of the copies stretched to become a settee, and the others rotated into position.

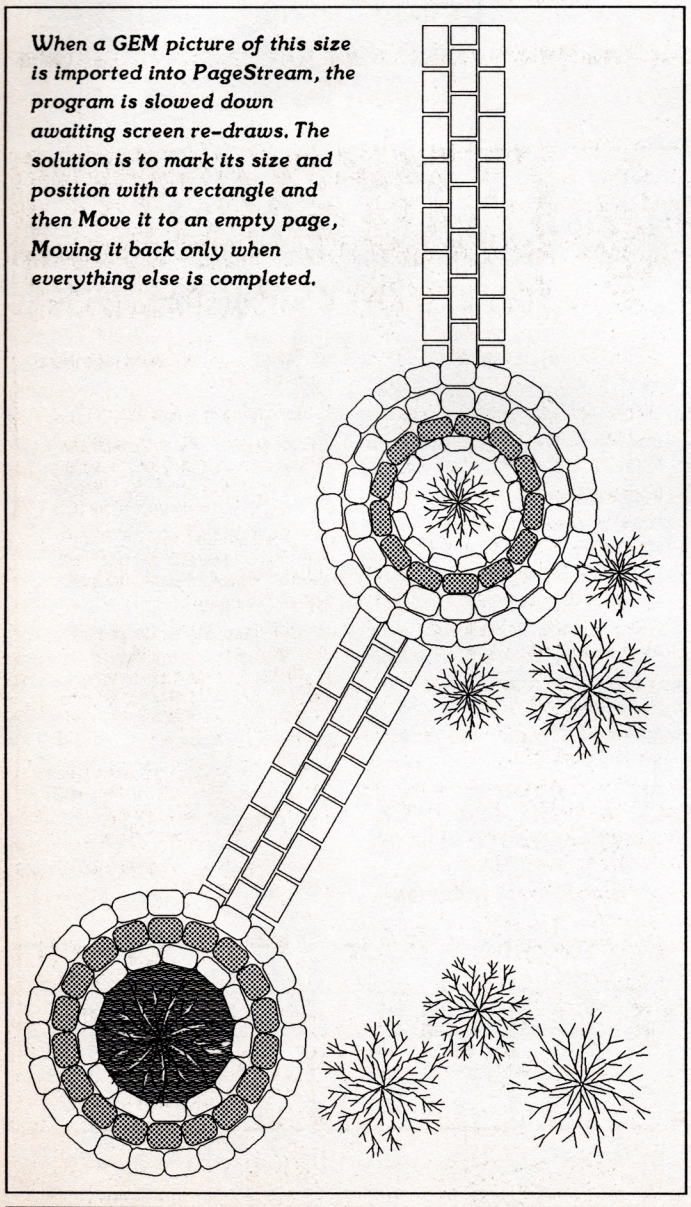
Problems? Well none from Easy Draw and Easy Tools, but as touched on in my original tutorial, DTP packages handle GEM files differently. My standard one is PageStream v2.2, and despite the vastly improved reliability and some improvements in other areas that have resulted from updating it from v2.1, I feel that GEM file handling, if anything, is worse. Many of the fill patterns have failed to transfer properly and some rounded rectangles have become pin cushions, but unlike Calamus v1.09, which imports GEM files more satisfactorily anyway, PageStream allows them to be Ungrouped, individual problem objects deleted and replaced using PageStream's own rather useful drawing tools, line types and fill patterns.

A recently discovered use for Easy Draw's rectangle-with-grid feature is for the creation of forms on PageStream. With one, or more, of such grids imported into the Master Page with its Fill Style set to Clear, you can add headings, logos and other text from within page 1 without interference from the grids.

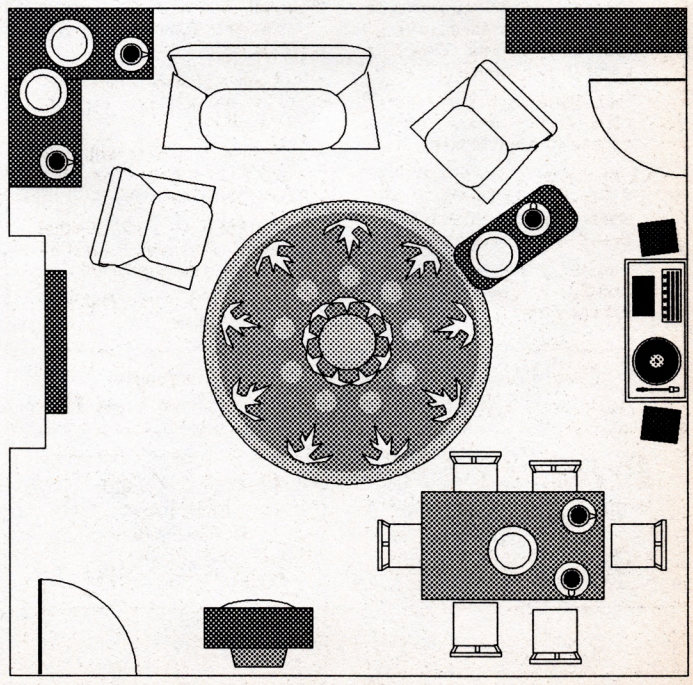
Easy Draw's own Outprint program is fine if you use an Epson 9-pin compatible printer, but if not you will need to replace the FX80.SYS file with one suitable for your printer. The one I use for my Deskjet 500 came free of charge from Working Title with their Calligrapher demo disk, and while it works well with graphics, text is badly spaced.

If you can sort out any of these potential printing problems you have a first rate drawing utility at a bargain price. If you missed these particular issues of ST Review, I understand that there are back issues available.

There is a moral to this article too. If you have an expertise with a particular aspect of your Atari Magic Box, write an article for STA - you never know where it may lead.



When a GEM picture of this size is imported into PageStream, the program is slowed down awaiting screen re-draws. The solution is to mark its size and position with a rectangle and then Move it to an empty page, Moving it back only when everything else is completed.



GFA Basic

Part III

Tim Finch

Straight in! Type in program 3.1 into GFA Basic V3 and run. This is a simple 'game' I devised to illustrate some points. A number of new commands are used and we will cover them. Run the program, and as the screen fills with numbers, press a key. The idea is to stop the numbers on a number between 6 and 10. If it's lower you'll lose. Look at the program and work out what you don't understand before reading the next paragraphs.

REPEAT...UNTIL - these two commands go together. All the commands between the REPEAT line and UNTIL line are repeated over and over again until a certain condition has been reached. We'll look at this later when we get to the UNTIL line.

PRINT TAB(...) - this is similar to a typewriter. If you press TAB on one it will move a small amount of distance across the page to allow text to 'indent' on that line. In GFA, the figure within the brackets indicates how many 'spaces' to leave before printing the following text. The ; on the end is important as it says 'GFA, do not leave this line yet - more to print on it later'.

RANDOM(...) - This is a command that generates a random number. You have to put the number into a variable - in this case 'number'. The value in the brackets (e.g. 9) says 'pick a random number between 0 and 9 inclusive'. We then add 1 to this number so it will lie in the range 1 to 10 inclusive.

ADD - This Command adds the second value to the first, placing the answer in the first. So the variable offset is increased by 5. It could easily have been done by offset=offset+5, but the ADD command is more speed efficient in GFA.

MOD - Now here comes a little mind bending! MOD is short for Modulo. To keep it simple it is like an 'upper limit'. If the value in the variable being MODulo'd is greater than OR EQUAL to the upper limit (80 in this case) it is reduced by 80. If it now is within limits it passes the test and the program continues. If still not, another 80 is taken away and so on until the the value is in limits. This value, in our example, is then put back into the variable 'offset' (offset=....). Examples: 80 MOD 80 is 0. 56 MOD 80 is 56. 95 MOD 80 is 15. 170 MOD 80 is 10.

INP?(2),INP(2) - The INP (and OUT) commands do quite a number of operations. With the value 2 in the brackets they specify keyboard functions. INP?(2) simply checks if a key HAS BEEN pressed. It does not say what key but only if a key has been pressed. INP(2) actually returns the code number of the key(s) pressed so as to allow a program to identify what key. We will look at these codes in greater detail next issue.

IF..THEN..ELSE..ENDIF - These groups of commands from the simplest checking ability of GFA Basic. You can check if a certain thing is true or not and dependent upon the result do one set of instructions or another. We are checking for the variable 'number' to be over 5, i.e. 6 upwards. If so the 'You Win' line is printed, otherwise the 'You lose' line is printed.

UNTIL - The end of the REPEAT structure started at the top of the program. Here we do a check. Is the letter stored in the string variable 'answer$' a lower case 'g'? If it is then jump back to the REPEAT command at the top. Otherwise we continue with the next line under the UNTIL line. The <> means 'not equal to' or 'is not'. It's the opposite of =.

This program begins to illustrate the concept of structured programming. This is visibly noticeable by the 'indentations' in the listing. You will have noticed that GFA indents certain lines of the programs you type in. Each time it indents, it indicates a new 'loop' or 'structure'. The commands that initiate this usually always work in pairs. REPEAT indents, UNTIL returns it to normal, IF indents, ENDIF returns again, etc. It makes the program a lot more readable.

The program prints a stream of numbers across the screen. As each number is printed the computer checks to see if a key has been pressed. If so the numbers stop flowing across the screen. The last number printed is checked to see if it is over 5 or not and the corresponding message is printed. There are 80 spaces for characters across the screen (in ST Med or Hi res). The TAB command allows you to say where to start printing across this space. Obviously a number over 80 isn't allowed. The MOD line therefore checks if 'offset' is over 80 and if so sets it back to a number in range. A hint - if you do not know what a particulat line does, put a ' before it and run. It's likely an error will occur and it may help you understand what that line was doing.

OK, select NEW from GFA editor menu and type in listing 3.2. This program illustrates a new concept - arrays. Fig 1 is a picture of what arrays look like. An array is like a collection of variables but they all have the same name. Each separate location is then referenced by a number. If the array is called 'ages' then we could put a number into the first location in the array by tapping in 'ages(1)=12'. We could put another number in location 7 by writing 'ages(7)=56'. We could add two entries from the array together and put the answer in another location. This may be done like this:

'ages(10)=ages(2)+ages(4)'

In other words we use arrays just like variables, the difference being the brackets. To prepare arrays for use, we use the DIM command. We need to tell GFA the size of the arrays we wish to use. So an array called ages to be 10 spaces big would need a line saying 'DIM ages(10)'. From then on you could use the examples above. So, a run down of program 3.2 :

DIM ages(family) - This dimensions an array to have enough spaces for each member of the family you have - the 'family' variable having been set by the user in the previous INPUT statement.

FOR..NEXT - This loop goes over each family member asking you to enter each person's age. The 'lupe' variable on the INPUT line references which location within ages we are to put that person's age.

MIN..MAX - These commands are quite clever. They compare the values in the two variables named within the brackets and give the value of the smallest(MIN) or largest(MAX) back to the variable in front of the = sign. So, on the first time round this FOR loop, 'youngest' is 999. Ages(1) may be, say, 12. Well 12 is smaller than 999 so 'youngest' becomes 12. Next time round the loop, ages(2) maybe 56 and so 'youngest' with the value of 12 is still the smallest. But, say, on the 6th time round the loop, ages(6) may be 5. This is is smaller than 'youngest' presently at 12 and so 'youngest' is then set to 5.

The same process is done for 'oldest', except the larger value of each comparison is returned to 'oldest' and so it will progressively increase to reach the oldest age within the ages array. By the time the FOR NEXT loop is complete, youngest will have the 'lowest' age, 'oldest' the highest.

INT() - The 'average' variable is increased each time round adding on each age. After the FOR NEXT loop, this total is divided by the number of ages added. This gives the mathematical average. However it's likely the division has left us a fraction answer (not a whole number - try dividing 153 by 7) The INT() command 'chops off' the fraction part and returns just the whole number part (or the INTeger part) of the answer. So if the division returns 34.876, then the value INT gives to 'average' is 34.

Homework! Program 3.1: Can you modify it so that it gives the user five attempts in a row and allows the user to win if he/she succeeded in stopping on a number over '5' on 3 or more attempts. Hint: you'll need to modify the first REPEAT..UNTIL loop and take out 'press g' print and input commands.

Program 3.2: Can you modify it to ask user for each person's name and then print it when it works out the youngest and oldest; it should also print that person's name along with age, i.e. 'The youngest is aged 12 and that person is called Peter'. Hint - you'll need to use string arrays (i.e. DIM people$(family)) etc. Another Hint - write on paper in English a list of things you need to do before trying to write the commands to do it all - and use the GFA manual to give you more information. Best of luck - solutions I've done are on disk mag. Next month more on string variables, introduction to ASCII and using PROCEDURES! Keep coding!

Ages							
1	2	3	4	5	6	7	8
23	34	8	64	19	72	0	0

Number Arrays: this array has eight spaces, numbered 1 to 8.
It's like individual variables, but with one name.

```
'
' Example Program 3.1
' Random Number Game
'
REPEAT
  CLS                              !clears the screen
  PRINT TAB(10);"Random Number Game!"
  PRINT
  offset=0                         !sets TAB offset to 0 to start
  REPEAT
    number=RANDOM(9)+1             !generates random number 1 to 10
    ADD offset,5                   !adds 5 to number in offset
    offset=offset MOD 80           !prevents offset rising over 80
    PRINT TAB(offset);number;      !prints random number on screen
  UNTIL INP?(2)=TRUE               !checks if a key has been pressed
  junk=INP(2)                      !junk contains code number of key
  PRINT
  IF number>5 THEN                 !if number is over 5, print 'win'
    PRINT "You win! You stopped with a number over five"
  ELSE
    PRINT "You lose! No worries - you can try again"
  ENDIF
  PRINT
  PRINT "Press g to go again or another to exit, followed by RETURN"
  INPUT answer$
UNTIL answer$<>"g"                 !if any other key than g pressed
EDIT                               !then program ends here

'
' Example program 3.2
' Check your ages!
'
CLS
PRINT "Family Ages Survey"
PRINT
INPUT "Please tell me how many people in your family";family
'
DIM ages(family)                   !creates an array for the ages
FOR lupe=1 TO family               !sets a loop up
  '
  PRINT "Please enter the age of the person number ";lupe;
  '
  INPUT "  ";ages(lupe)            !asks for each age & puts it in array
NEXT lupe
'
youngest=999                       !sets youngest variable to a high num
'
FOR lupe=1 TO family
  youngest=MIN(youngest,ages(lupe)) !progressively works out youngest one
  oldest=MAX(oldest,ages(lupe))     !ditto oldest person
  average=average+ages(lupe)        !adds up all ages to work out average
NEXT lupe
'
average=INT(average/family)        !average is all ages added, then
'                                  !divide answer by number of ages
PRINT
PRINT "The Youngest is ";youngest;" years old"
PRINT "The Oldest is ";oldest;" years old"
PRINT "The average age is ";average;" years"
'
PRINT "Press a key to Exit"
junk=INP(2)                        !forces ST to wait for a key press

EDIT
```


X-Debug

Advanced Debugger for Atari ST/TT computers

X-Debug is an advanced debugger for the Atari range of computers. It is both a low-level debugger, showing memory dumps and register contents, and also a medium-level debugger, understanding about certain high-level languages and allowing source display single-step, and local variable access, for example.

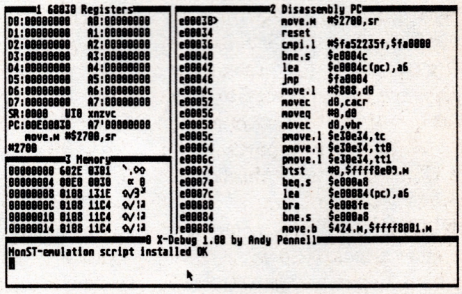
The best support is for Lattice C, as that is the only compiled language that outputs full debug information, but it also supports line-number debug (as created by HiSoft Basic and Devpac 3), and symbol-only debug (usable with virtually all ST compilers).

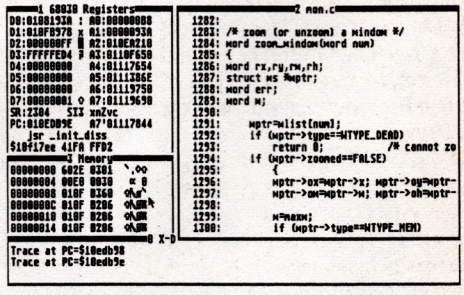
Crucial to the whole debugger is the X-Debug language. This is a simple yet powerful script type language that allows complex operations to be built up from a sequence of standard operations. It supports a full expression evaluator, aliases, and procedures with parameters. It is also an important factor in customising the user interface, allowing specific commands to be attached to particular keypresses.

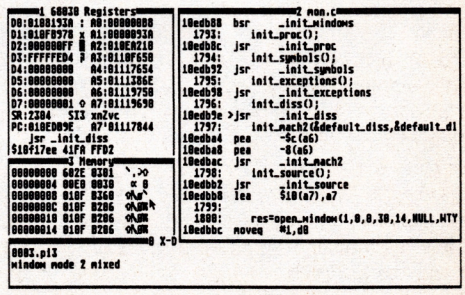
X-Debug runs on STs and TTs with any monitor type. One megabyte of RAM is recommended, and TOS 1.4 or later avoids problems with larger programs. Written by Andy Pennell, the creater of MonST.

£24.95

The ST Club
2 Broadway
Nottingham
NG1 1PS





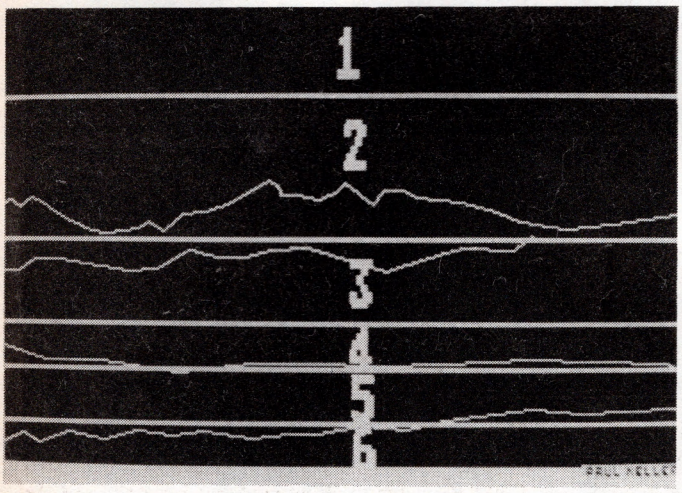


Grafix Arts

Paul Keller

TECHNIQUE – Extended Palettes

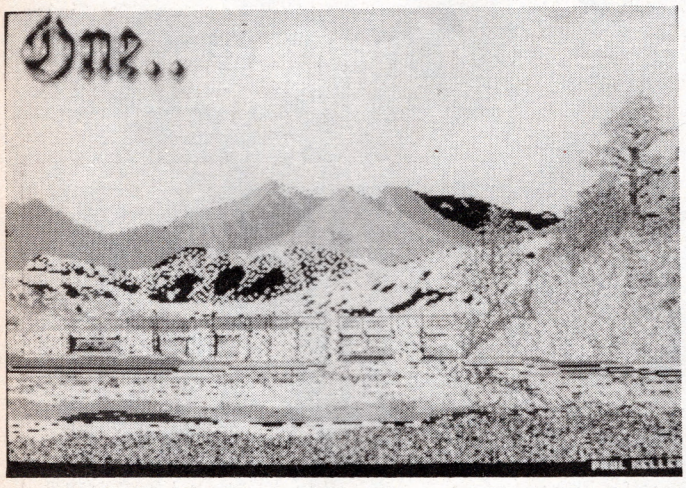
This picture was drawn with the art package 'Canvas' using the extra colour FUL mode available. The drawing method for this extra colour mode is very different from that of the art package 'Spectrum 512' and is definitely not for beginners! However, having myself persevered with 'Canvas' in this extra colour mode I can say that it is very robust. Once you become used to the method involved it really does become fun to use with hundreds of colours on the screen.



A maximum of 800 colours can be displayed on screen at any one time with Canvas's FUL mode. The smallest colour band is 4 pixels high and by dividing the height of the low resolution work area (200 pixels) by this figure we get 50 colour bands. Each band or palette can contain up to 16 colours which gives us 16 x 50 = 800 colours. In practice, though, we are still limited to 16 colours per scan line, which means that certain pictures requiring more than this cannot make much use of this extra colour mode, while others such as landscapes can exploit it.

(1) To start with a grid was drawn scaled to the reference I was working with. Next, the basic outline of the picture was drawn using the colour white. The picture was then split up into 6 palettes, this being done one at a time using the set HBL command and each separate palette.

First the palette box was moved to 1 and then the HBL set to the first position. Palette 2 was selected and the second HBL set below this in its position. All the HBLS were set moving down the picture in order of sequence and by the selection of the appropriate palette being used.



(2) The picture above shows the finished screen in normal 16-colour view, but when you press 'H' all the palette HBL's you have set are shown all at the same time. When you are actually working in this mode you can only deal with one palette at a time as the 16-colour limitation applies with Canvas's tool functions.

The integration of these colour palettes is where things can become tricky. You will find that the palettes will need to overlap if you want the end result to be effective, which means keeping some of the same colours in each of the proceeding palettes. A little perseverance is needed to create any impressive results, but these are easily obtainable with practice.

(3) When dealing with these special extra colour palettes I tend to work either from top to bottom or from bottom to top of the screen. By working in such an order you get a better idea of each of your colour palettes' integration. Remember to keep using the 'H' key to view your work in full colour and thereby keep a check on your work's progress. Another tip is to keep the background border colour the same as in all the other palettes, and if possible keep one white colour in each of your palettes also.

You can then change the colour of the border in all palettes to a different shade; this will help you mark the colour palette bands and will act as an easy guide when viewing in full colour mode. Remember to switch them all back to black when you no longer need this colour band guide.

(To be continued next month.)

FALCON

APPLICATIONS

Falcon News

Upgrade For Less

Silica Systems have announced the immediate availability of ActionSoft's Falcon RAM upgrade board at a very reasonable £49.95 (unpopulated). It fits in place of the supplied memory board and allows you to use industry standard 32-bit SIMMs rather than Atari's proprietary memory modules. The ActionSoft board allows you to upgrade your Falcon to 4 Megabytes or 14 Megabytes. Although the board is being offered unpopulated, Silica do offer to supply and fit the SIMMs for you. Since the price of SIMMs is variable at the moment, the charge for these will depend on the market conditions at the time you place your order. Supplying the unpopulated board does of course mean that you can supply your own SIMMs if need be. For more details contact Silica Systems, 1-4 The Mews, Hatherley Road, Sidcup, Kent DA14 4DX; Tel: 081 309 1111; Fax: 081 308 0608.

Colour Scanning On Your Falcon

Migraph's 'Colour Burst' colour hand-held scanner has just been released. It is exclusively for the Falcon and allows you to scan colour material at one of four different settings. It supports 12-bit and 18-bit palettes giving 16 colours from 4096 and 256 colours from 262,144 respectively. The other two settings give 64 true greyscale levels and monochrome (for text or line art). Six scanning resolutions from 50dpi to 400dpi are supported, being dependent on the scanning mode selected, 64 greyscales being possible at 400 dpi. Colour Burst comes with Migraph Colour Kit software which scans, displays and saves the images in TIFF, IMG, TGA and IFF formats. The package is also supplied with Migraph OCR Junior for scanning pages of text and converting them to ASCII. Migraph OCR is based on Omnifont technology and features trainable optical character recognition. Colourscan requires 4 megabytes of memory and a hard drive is highly recommended. Colour Burst retails at £399, but is available at an introductory price of £299 until further notice. Contact Gasteiner Technologies, Unit 2, Millmead Business Centre, Millmead Road, London N17 9QU; Tel: 081 365 1151; Fax: 081 885 1953.

Another Eagle!

Following last month's announcement of the Eagle, a TT compatible motherboard, along with the rumour that the Falcon 040 may be christened the Eagle, there's yet another Eagle. This time it's Eagle Sonic 32, a 32Mhz accelerator board for the Falcon 030. It fits into the internal expansion port and deactivates the 16Mhz 68030 when in use. It is activated by software which can be run from the Desktop or the Auto folder. When not activated, the Falcon operates normally using the built in processor. Eagle Sonic 32 gives the Falcon the same speed as the TT when performing calculations and slightly less for other operations. It is available now and costs £179.

Mighty Sonic 32 is an adaptation of Eagle Sonic 32 with space on board for up to 32 Megabytes of TT Fast RAM. It takes industry standard 1Mb and 4Mb SIMMs and boosts the Falcon's performance to greater than that of the standard TT. It is configured in such a way that the memory is adjusted to the 32Mhz processor clock for faster memory access. The Fast RAM on Mighty Sonic is in addition to your Falcon's system memory and is addressed as alternative memory in the same manner as on the TT. Mighty Sonic 32 is supplied unpopulated for £239 and the SIMMs can be purchased from Gasteiner or you can use your own. For further details, contact Gasteiner Technologies, Unit 2, Millmead Business Centre, Millmead Road, London N17 9QU,; Tel: 081 365 1151; Fax: 081 885 1953.

Falcon PD Update

GAM.233: VERTICAL MAYHEM by Martin Griffiths. A clone of the Sega Game Gear title Columns. Line up diamonds of the same type and make them all disappear.

GRA.189: Two 256-colour FLI Animations: Apple or HexHead; plus the FLI amimation player.

LAN.153: a56 - DSP56001 assembler version 1.1 - Not much by way of documentation so you'll need a book on the DSP assembler. Some example source codes included.

MUS.98: Updated to include: **WINCUT** - an add-on for the WINREC D2D package already on this disk. Allows you to cut, edit and paste samples and create a jukebox effect with DVS samples.

UTI.321: Updated disk now includes: **BACKWARD II** - helps solve compatibility problems with running ST software on Falcon; **INTERLACE** - helps steady the flicker in interlace mode with a TV display; **MAGIBOOT** - set-up at boot-up utility to help work around problems with running ST software on the Falcon.

Cable for Mr. Tramiel!

Ladbroke Computing may just have saved this from being a really boring review. Probably not, coz it's still being written by me. But they tried, they tried.

PIPER

Reasons to be cheerful

So why was this going to be dull? Well, what I've got here is a cable. Our Beloved Editor sent it to me with the instructions "Review this". Kind of difficult with a cable. It's got two ends with wires running between them. Tricky.

Admittedly, it's something I've been begging him for for ages, a SCSI to SCSI-2 to get my Falcon to talk to my old ST hard drive, but I couldn't justify spinning this out into a review. So I called Ladbroke Computing to see if they had any hard drive/Falcon related software. And they did. So now I'm also able to tell you about the ICD Pro Utilities, something which will be of *great* use to you if you're trying to take advantage of the Falcon's sound processing facilities.

Back to Basics

But first, back to the cable. It's one of a rare species, very difficult to get hold of and quite expensive if you do manage to track one down. Until now. The ST Club have teamed up with Marpet and are offering this for £24.95, about half the price I'd been quoted before, and very much in the "reasonable" range. One end of it plugs into the Falcon's SCSI-2 socket, the other will plug straight into a SCSI drive (NOT the interface, the drive. That's what makes it so rare). If your ST already has a hard drive, there's a reasonable chance that it'll be a SCSI (but check up on it first).

Installing it is pretty simple: Open up the drive casing to get at the drive rather than the interface, pull the interface cable out of the drive and replace it with the ST Club cable. Ting! You've got yourself a new drive. Or at least, your old one. Simple, huh?

Well, no. Not quite. The cable worked fine, there were no problems with that, but the Atari hard drive software started showing some weaknesses. My old drive had been formatted using ICD software, and the Atari software still has a bug which won't let it read past the fourth partition on a drive formatted by anything other than itself. Since I was meant to be checking the cable out, I ended up re-formatting the old drive (accidentally losing some data that I'd been sure I had a backup of somewhere) and ended up with access to (nearly) all my ST software. The cable works. The software's faulty.

Soft Options

It was at this point, after I'd already lost the data, that the obvious conclusion hit me: Change the software. I'd contacted Ladbroke Computing and had been offered the ICD Pro Utilities, a replacement for Atari's hard drive software, with a number of other facilities. The Pro Utilities work without having an ICD adaptor installed, a restriction which had prevented me using my old ICD software on the Falcon. If I'd got it when I first installed the cable, life would have been a little easier and I wouldn't have lost my data. Hindsight gives you a wonderful perspective.

Since I had this software, I decided that it would probably be wise to take full advantage of it by re-formatting both drives and re-partitioning them. After all, with the mistakes I'd made the first time, I wasn't going to lose any more data. That would imply mental laxity, a fault that I can't possibly fall prey to.

And so I bid a fond farewell to my Calamus SL demo and Fast-Copy Pro and various other bits and pieces that I neglected to save elsewhere. Moral: always make backups.

Profits and Loss

Was it worth it? Oh yes, for sure.

Running ICD's RateHD program shows my Falcon drive to have a 22ms access time and a 448Kb/s data transfer rate. My old SCSI drive has the slower access time of 37ms, but can shunt 757Kb/s, very useful for moving bigger files like sound samples. And having that drive available for that purpose only cost me £25.

Add on to that the advantages of the ICD software. The Ness Benchmark (NBM) has a read/write test for the drive you happen to be on. Results of this are pretty impressive (see Figure 1). The SCSI drive does better than the internal drive, and with the IDC software it takes an 85% increase in efficiency.

If you need more, there's also a test for GEMDOS files in Quick Index. Different, doubtless reliant on cache abilities, but still good.

And for a final confirmation, I tried shifting the entire contents of drive E (on the internal disc) to a folder in drive J (on the SCSI disc), then back again. The results of all this show that if you want to do any disc-intensive work, you need to ditch the Atari software, soonest.

Choosing a Path

These products give you some interesting options. With the ST Club cable, you can now connect your old ST drive (as long as it's a SCSI) and, with the ICD Pro Utilities, you can move data around much faster, very useful if you happen to be doing some sampling. If you haven't yet got a Falcon, you could buy one without hard drive, get the ST Club cable at £25, ICD software for £40 and pick up a Conner 170Mb, 16ms access time SCSI drive for £135, giving you a larger, faster drive at the same price as a Falcon with drive fitted. If you've already got a Falcon and want more space and greater efficiency, you can go for a Fujitsu 330Mb, 12ms access, fast SCSI-2 drive for £268. If you just want a little more space, troll around the second hand market and pick up an old ST SCSI drive and by-pass the interface, or delve into the market for old PC equipment.

End Message

The cable is a cable. It works. It could do with some tidying up, but as long as you don't have the urge to whirl your drive over your head using it as the anchor, you'll be all right. You get direct access to your old drive, or many options on a new one, all for a reasonable price.

ICD Pro Utilities speeds up your disc access and gives you facilities for back-ups (don't forget to do them) and for fixing disc faults. If your Falcon is used in ways that require lots of disc access, such as direct to disc recording, this is invaluable.

If you haven't got an old ST drive, have no intention of adding a new one and don't do anything disc-intensive, you were warned at the beginning that this would be dull. Next time ***listen*** to me.

FIGURE 1

	AHDI	ICD
Ness Benchmark		
Read/write to internal disc	190%	236%
Read/write to SCSI disc	211%	391%
Quick Index		
GEMDOS to internal disc	3629%	21773%
GEMDOS to SCSI disc	1814%	19958%
Copy E to J	5:35	2:03
Copy J to E	5:40	2:20
Delete E	1:09	0:17
Delete J	1:35	0:15

Product:.....SCSI to SCSI-2 lead
Price:.....£24.95
From:.....ST Club
2, Broadway
Nottingham
NG1 1PS
Tel:.....0602 410241

Product:.....ICD Pro Utilities
Price:.....£39.99
From:.....Ladbroke Computing
33, Ormskirk Rd.
Preston
Lancashire PR1 2QP
Tel:.....0772 203166

Falcon Forum

Falcon Compatibility

Hartley Patterson - FF STA 33
Colin Fisher-McAllum - FF STA 33
Graham Hinton - FF STA 34
Phil Hodgkins - FF STA 34

I Having followed with interest the correspondence on the Falcon in ST Applications I would like to add a few comments. First, I am left wondering why some of your contributors, in view of their generally derogatory attitude to Atari, still bother with either the ST or the Falcon. Of course Atari is not perfect, but when I see colleagues and secretaries struggling with other machines it seems that the company is not uniquely bad either, and on a performance/size of market ratio may even come out quite well!

However, let me pick up on the point of Graham Hinton (Falcon Forum STA 34) on why one should not apparently look for compatibility of ST software with the Falcon. It seems to me that many purchasers of the newer machine will need and expect just that! After all, most of us soon find we have a large investment in software - in both outlay of cash and in our time spent learning how to drive it - which we are reluctant to lose. If the total investment has to be made from scratch, it probably makes more sense nowadays to go to an IBM-type machine or to Apple, just to have compatibility with a wider community (and the support which many of us can then get at work). And prices are tumbling so fast that Atari not only no longer offers the advantage of cheap hardware, but even the differential on software prices is reducing. As yet there is very little available which takes advantage of the unique features of the Falcon, so it is important to be able to get on with the bread-and-butter tasks of producing nicely printed pages, or whatever.

I was surprised to see KnifeST listed (STA34, p30) as "definitely not working" on the Falcon, since version 1.07 is at least partially and usefully usable. There are problems with reading and editing actual tracks and sectors, but not logical sectors or clusters, on floppy discs. Most of the other functions seem to work, at least as far as low-level disc editing is concerned.

Although First Word Plus indeed functions, apart from a few minor bugs, First Mail is not so good; on first loading on a Falcon it appears to be working, but in fact it (i) prints spurious, unmerged copies and (ii) appears to corrupt the machine, so that other programmes do not work when loaded after quitting from First Mail, and the machine has to be reset. I have also found what appears to be a bug in First Word Plus, version 3.20TT (and the earlier version 3.14 which I had), running on both the Falcon and ST, in which ASCII files with strings of more than 160 characters which do NOT contain CR+LF cannot be imported satisfactorily; the programme does not crash, but either fails to display any text at all, or else displays garbage. Softline, just before I decided not to renew my subscription, seemed unable to either reproduce the fault or offer any explanation. The problem became noticeable with long blocks of text exported as ASCII from PageStream.

Finally, EasyDraw 3 appears to work, apart from (i) the annoying habit of resetting the mouse double click rate (my note in STA 32), (ii) sometimes crashing with two bombs if you try to leave the curve-editing routines (I thought using F10 was the problem, with clicking in the drop-down menu working, but the fault is not reliably reproducible), and (iii) Outprint getting confused if you reset the printer too frequently (don't ask me why this should be necessary, but human beings do strange things out of curiosity!).

It would be nice to see these fixed and, in the long term, to look forward to new software to exploit the power of the Falcon - but on both counts the small size of the Atari market can hardly help. Meanwhile, I am sure the Falcon is only really viable with a good measure of downward compatibility.

Brian Mulhall

I Correction and update: Edison Utilities is very bad news indeed, despite the seductive screensaver. Installing this program as an accessory will cause two errors, and there may be others:

1) Certain programs will bomb when started without any apparent reason.

2) Switching to ST compatibility from SVGA will bomb.

This program is on a lot of PD libraries and BBS. Search and Destroy and apologies for recommending it: it took a while to trace it as the cause of various problems.

XCONTROL 1.31 does not like TOS 4.00, XCONTROL 1.1 (pre-Falcon) does not like TOS 4.04. I don't know which works with TOS 4.02.

Thank you, Atari, for releasing an almost identical suite without any documentation or explanation. If, like me, you start with an ST mono monitor and then later upgrade to SVGA/multisync you may have mixed up the CPXs without realising that there is a difference. The changes and incompatibilities arise from the introduction of "3D" Dialog boxes and Windows, again without proper explanation. If you find that the text disappears off a lot of CPX buttons, the best remedy is (unfortunately) to delete the lot and replace with a known 1.31 set.

CONNECT 2.10 and XBOOT3 get promoted to the "seem OK (all resolutions)".

Graham Hinton

Falcon Monitors

A Isn't it disgraceful that there are only two (unhelpful) lines in the Owners' Manual on monitors? People should not have to ask about this!

Most (if not all) multisync monitors come with a VGA plug and you will require an Atari adapter block to connect it to the Falcon. Once connected the first big surprise is that the Falcon powers up in ST Low resolution and all the booting and Auto folder sign-on messages are a mess. This is due to the way the completely undocumented NVRAM is set when shipped. You will need to aquire a copy of the PD program BOOTCNF.PRG by Uwe Seimet and change the settings of Display to VGA, Video Mode to Compatibility Off and Colours to choice, but 16 is probably best. The Falcon will then boot in VGA mode and ST modes may be selected and deselected from the Desktop menu "Set Video..." without rebooting. Switching to TV modes is done by programs that require it, not the user.

If you are going to buy a multisync, budget for Screen Blaster as well. This will enable the best usage of the monitor. I find 864x512 16-colour the best to work in as it gives the best compromise between resolution and scale - standard VGA seems very clumsy in comparison. 'ST compatible' modes are not really as the "3D" effects are not turned off, which means that all GEM window gadgets are thicker so that the window work size is smaller by a few pixels. This may make a difference, especially with word processors, as the text will be quantised in character cells to one row and one column smaller than on an ST. Moral: if you want to run ST software better keep your ST.

The trouble with some of the extra sizes is that you need to keep adjusting the monitor aspect ratio. If you need squares to stay square or actual size rulers this limits the number of screen modes that can be used in practise. ScreenBlaster 672x496 2 colour is presentable, but then, like OverScan on the ST, this tends to sort out programs that make false assumptions concerning the screen size. Unlike OverScan ST there is no autoswitching with ScreenBlaster so you need to make sure that you are in the right resolution before starting a program.

The Falcon Desktop does not do anything intelligent with oversize windows or Desktop Icon positions when it changes between video resolutions; in fact, it does some pretty stupid things. This makes XBOOT3 another essential purchase. So if you want a multisync allow almost another £200 on top for adapter + ScreenBlaster + XBoot3 + NVDI to get what the Falcon can really deliver. This will be money well spent on a serious computer; after all, the Falcon is not a games machine, it's just that nobody told Atari that.

Graham Hinton

A Although your multisync monitor may well be capable of displaying both RGB and VGA screen modes, the only way (that I am aware of) to access both modes is by using the appropriate adaptor; in other words you have to purchase both RGB and VGA adaptors. When I need to use an RGB mode (which I try to avoid if possible), I utilise a multisync switch box (originally purchased to connect the multisync to my old STFM) between the RGB adaptor and monitor. This simply serves to connect the round DIN-type socket on the RGB adaptor to the 15-pin D plug for the monitor's VGA cable - not an ideal situation but it works.

Andy Richardson

Monitor Life Preserver

Damien Jones

Last month I covered the basics of an assembly accessory; this month I'll explain how to handle a complex dialog. Although the accessory still doesn't do anything, it does it a little more spectacularly than last month's program.

Creating the Dialogs

This month's program uses two dialogs - the "Main" dialog and the "Info" dialog. Before the program can do anything with those dialogs, though, they must be created. You could construct them by hand, setting all the pointers and such yourself, but this is a real nuisance and resource editors were created to eliminate that time-consuming and error-prone task. Personally, I like ORCS, but any good resource editor (such as WERCS or, if nothing else is available, RCS2) will do.

If you're going to create the dialogs yourself, you can use the ones I created (shown in the diagrams) as a guide. Remember to name the objects - refer to the source code for the names I used. If any of the names seem odd, remember that this accessory will be expanded in further articles, and more dialogs will be added.

Once you've got the .RSC file created (or just use the one I made) you're ready for the real meat.

Initialization

Last month the accessory had just two things to do when initializing - appl_init (to make sure it's an accessory) and menu_register (to make the accessory available to the user). This month's program has a bit more to worry about. First, the .RSC file must be loaded from disk. There's a handy AES call that does all that work - mucking about with opening files, reserving memory, and adjusting it to the current resolution - called rsrc_load.

This takes care of most of the initialization stuff, but not everything. Once the resource is loaded, the accessory has to get the addresses of the dialogs so it can use them later. Again, there is an AES function to take care of this - rsrc_gaddr. This is called twice, once for each dialog, and the addresses saved.

After the address of each dialog is known, they are centred on the screen. As before, an AES call does the job; form_center takes an object tree (in this case, a dialog) and centres it on the screen.

Then the Saver "On" button in the main dialog is turned on. The "On" and "Off" buttons are radio buttons - only one of them may be selected at any given time. When the .RSC first loads, though, neither button is on. It makes sense to turn one of them on before the dialog gets displayed.

The last part of the initialization (just before the menu item is added to the "Desk" menu) adjusts the resource for low resolutions. I created my dialogs in monochrome (I prefer programming in monochrome); the AES can resize buttons easily, but what it won't do is resize icons. I used a pretty icon at the top of the main dialog, but in low resolutions (such as ST Medium and ST Low) the icon appears twice as tall and overlaps the buttons below it. To fix this, I enclosed all the lower buttons in a single I-box. Then, if the accessory is loaded from a lower resolution, all of the buttons can be moved by just moving the box. I use the AES function graf_handle to get the size of a character in the standard font, since this is what rsrc_load uses when it rescales the dialogs. This method works properly in the new Falcon resolutions and should work with graphics boards as well, since it's the "proper" way to do it.

Displaying and Handling the Dialog

Although it may look like a lot of work is involved in getting simple dialogs up and running (and there is) it's because of the flexibility of GEM and the AES. GEM isn't perfect, but it's much better than MS-DOS, clunky command lines, and having to write your own dialog code. Once the dialogs are loaded, displaying and interacting with them is relatively simple.

As with last month's program, once the initialization stage is completed the program just waits for the user to select the accessory from the Desk menu. When they do, it is time to display and interact with the dialog.

To display the dialog involves three steps. The first is to use the AES function wind_update to tell the AES that the program is about to change the screen (wind_update function 1). This prevents any other programs from drawing on the screen at the same time. Then form_dial is used to reserve a section of the screen for the dialog (form_dial function 0), and objc_draw is used to draw the entire object tree containing the dialog on the screen. I placed these last two AES calls in a separate subroutine called draw_dialog because I'll use them again.

If you look in the draw_dialog subroutine, you will see that it defines the clipping rectangle to be the width and height of the dialog box, plus 2 in each direction. This extra space is included because I normally use a shadow on dialog boxes rather than the drab-looking outline. Without adding this extra space, the shadow lies outside the clipping rectangle and doesn't get drawn.

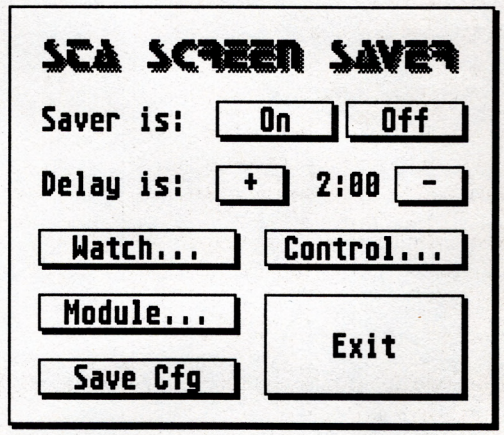
With the dialog on the screen, all that remains is to handle the interaction with the user. Again the AES has a ready-made function to take care of the problem; this one's called form_do. It returns the object number of whichever button the user selected. There are two things to keep in mind when using form_do, though: first, that if an object with the "Touchexit" bit set is double-clicked, bit 15 of the return value will be set (and so must be cleared to get the proper object number); second, if the "Selectable" bit is set, the object will be selected when form_do returns. These are not problems (actually, they're useful) but they are things that need to be remembered.

Once form_do has completed, the program must decide what to do about the button selected. This accessory (at the moment) reacts to just a few buttons. If the Saver "On" or "Off" buttons are selected, the program just goes back to the form_do call; the AES has already taken care of deselecting the other button. If the icon at the top of the dialog is selected, the program jumps to the info_do routine, which handles the information dialog (which I'll get to in a bit). Any other button then gets turned off (remember it would have been left selected by form_do). If the button wasn't the exit button, the accessory just jumps back to the form_do call for more interaction with the dialog.

Once "Exit" is selected, the dialog is removed from the screen and the accessory jumps back to the evnt_mesag loop to wait for the user to activate it again. Hiding the dialog involves using form_dial (function 3) to return the previously-reserved area to GEM; this will trigger redraw messages to all programs that use those parts of the screen. As with drawing dialogs, hiding them is needed in several places, so I put it in a subroutine called remove_dialog. The redraws triggered by the form_dial call cannot take place, however, until a wind_update (function 0) call is made that indicates the end of the accesory's screen drawing - thus releasing control of the screen and allowing another application to seize control.

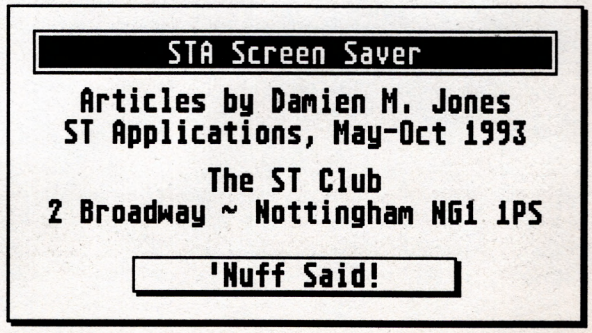
The Info Dialog

Since this dialog is requested while the main dialog is still on the screen, some extra things need to be done. The main dialog must be removed before the info dialog can be drawn. Then the info dialog can be drawn. It is handled using form_do, just like the main dialog; when the button is selected (the only one in this dialog) the dialog is removed from the



△ This is the main dialog; from here the user will turn the screen saver on or off, set the delay time, or call up other dialogs. Although you can't see it, there's an I-box around all of the buttons; this is used to move them all a bit when the accessory is run from a lower resolution.

▽ Every program should have one of these. It's good for the programmer's ego.



screen and the main dialog redrawn. Then the program jumps back to main_turn_off - the part of the main dialog routine that turns off the selected button. If you follow the flow of the program, you will see that the info dialog is handled before the icon is deselected; this is why it must be turned off in the main routine.

You'll also notice a subroutine named allow_redraw that is called after the main dialog is hidden, but before the info dialog is drawn. It is called again after the info dialog is hidden, but before the main dialog is redrawn. What it does is give other applications (usually the Desktop, but not always) a chance to redraw their windows before another dialog is displayed. It works by surrendering screen control temporarily; wind_update(0) and wind_update(1) are set in a loop, and each time through the loop another chunk of the windows gets redrawn. Usually fifty times through the loop is enough (I've had seven windows open in NeoDesk and it's always been plenty). Note that when the loop finishes, screen control is again in the hands of the accessory, since at that point it is about to draw a dialog.

The allow_redraw routine is not strictly necessary. If it is not included, only the desktop background will be redrawn between dialogs - remnants of dialogs will be left inside windows. When the accessory exits and completely surrenders mouse control, the rest of the redraws will take place, restoring the screen to its proper appearance. Allowing the redraws to take place between dialogs results in a bit slower response, but the program looks better. After all, presentation is important for any program.

New Subroutines

This month added the draw_dialog, remove_dialog, and allow_redraw subroutines. It also added several AES subroutines: rsrc_load, rsrc_gaddr, form_center, form_dial, objc_draw, wind_update, form_do, objc_change, and graf_handle. That's quite a bit to digest.

Next Month

It's about time this accessory did something useful, and so next month we'll add some "teeth" to the accessory and actually make it save the screen.

```
*----------------------------------------*
*                                        *
*       Screen Saver Accessory           *
*       Part 2: Dialog Handling          *
*                                        *
*----------------------------------------*

*       Lines that are changed or added from last month's program
*       are indicated by an asterisk (*) in the right-hand column.

*       Resource set indices for SSAVER (provided by ORCS).*
*       This makes programming easier, since names can be used in place of
*       actual numbers.  Then if the resource is edited, only these*
*       definitions need to be updated.*

MAIN            equ 0           ; form/dialog*
INFO            equ 1           ; ICON in MAIN*
MAINBUTTONS     equ 2           ; IBOX in MAIN*
SAVERON         equ 5           ; BOXTEXT in MAIN*
SAVEROFF        equ 6           ; BOXTEXT in MAIN*
DELAYUP         equ 8           ; BOXTEXT in MAIN*
DELAY           equ 9           ; FTEXT in MAIN*
DELAYDOWN       equ 10          ; BOXTEXT in MAIN*
WATCH           equ 11          ; BOXTEXT in MAIN*
CONTROLS        equ 12          ; BOXTEXT in MAIN*
MODULE          equ 13          ; BOXTEXT in MAIN*
MAINDONE        equ 14          ; BOXTEXT in MAIN*
MAINSAVE        equ 15          ; BOXTEXT in MAIN*

INFOBOX         equ 1           ; form/dialog*
INFODONE        equ 6           ; BOXTEXT in INFOBOX*


*--------------------------------*
*       Main program starts.     *
*--------------------------------*
        section text

        lea stack,a7            ; Relocate stack pointer.

*       Make sure this is an accessory.

        bsr clear_aes           ; Clear stuff in global array.

        bsr appl_init           ; Do AES appl_init.
        tst.w d0                ; Error?
        ble exit                ; Negative is error, 0 is not ACC--exit!
        move.w d0,ap_id         ; Else save application ID.

*       Load .RSC file and center dialogs.*

        pea rsc_name            ; Address of .RSC filename.*
        bsr rsrc_load           ; Load and set up file.*
        addq.l #4,a7            ; Adjust stack.*
        tst.w d0                ; Was the load successful?*
        beq rsc_err             ; Nope, tell the user!*

        clr.l -(a7)             ; Search for dialog 0 (MAIN).*
        bsr rsrc_gaddr          ; Do search.*
        addq.l #4,a7            ; Adjust stack.*
        move.l d0,dialog_main   ; Save it.*

        move.l d0,-(a7)         ; Address of the object tree.*
        bsr form_center         ; Center dialog.*
        addq.l #4,a7            ; Adjust stack.*

        move.l #1,-(a7)         ; Search for dialog 1 (INFO).*
        bsr rsrc_gaddr          ; Do search.*
        addq.l #4,a7            ; Adjust stack.*
        move.l d0,dialog_info   ; Save it.*

        move.l d0,-(a7)         ; Address of the object tree.*
        bsr form_center         ; Center dialog.*
        addq.l #4,a7            ; Adjust stack.*

*       While we're at it, let's make the Saver ON button selected*
*       and adjust the dialog for medium or low res.*

        move.l dialog_main,-(a7) ; Address of main dialog object tree.*
        move.l #$210000,-(a7)   ; New state is selected; don't redraw.*
        clr.l -(a7)             ; Clipping rectangle is not used.*
        clr.l -(a7)             *
        move.w #SAVERON,-(a7)   ; Object number to change.*
        bsr objc_change         ; Change button.*
        adda.w #18,a7           ; Adjust stack.*

        bsr graf_handle         ; Get character cell size.*
        cmp.w #16,int_out+4     ; Is it 16 (high resolution)?*
        bge register_acc        ; Yes, don't move anything.*

        move.l dialog_main,a3   ; Get address of main dialog.*
        add.w #8,22(a3)         ; Increase the height of main dialog.*
        move.w #MAINBUTTONS,d0  ; Object number of IBOX containing buttons.
        mulu #24,d0             ; Multiply to get offset in tree structure.
        add.w #8,18(a3,d0.w)    ; Move Y position of that box.*

*       Add menu item for this accessory.

register_acc
        pea menu_item           ; Address of menu item.
        bsr menu_register       ; Register accessory in Desk menu.
        addq.l #4,a7            ; Adjust stack.
        move.w d0,menu_id       ; Save menu ID.

*       Now wait for a message.
*       This is the main event loop of the program.

wait    pea aes_msg             ; Address of AES message buffer.
        bsr evnt_mesag          ; Wait for AES message.
        addq.l #4,a7            ; Adjust stack.

        cmp.w #40,aes_msg       ; Is it an "activate accessory" message?
        beq go_acc              ; Yes, let's do something.

        bra wait                ; Else go back and wait some more.

*       Accessory was activated.

go_acc  move.w aes_msg+8,d0     ; Get ap_id of activated accessory.
        cmp.w menu_id,d0        ; Activated this accessory?
        bne wait                ; Nope, wait for another message.

*       Draw main dialog.

        move.w #1,-(a7)         ; Start screen redraw.*
        bsr wind_update         ; Lock out other screen drawing.*
        addq.l #2,a7            ; Adjust stack.*

main_do move.l dialog_main,a3   ; Get address of main dialog.*
        bsr draw_dialog         ; Draw main dialog.*

*       Now let GEM do all the work of handling the dialog.*

main_wait                       *
        move.l dialog_main,-(a7) ; Address of main dialog.*
        move.w #DELAY,-(a7)     ; Number of first editable object.*
        bsr form_do             ; Handle dialog.*
        addq.l #6,a7            ; Adjust stack.*

        bclr #15,d0             ; Clear high bit (just in case).*
        move.w d0,d7            ; Save this in a safe place.*

        cmp.w #SAVERON,d7       ; Saver On radio button?*
        beq main_wait           ; Yes, DON'T turn it off.*
        cmp.w #SAVEROFF,d7      ; Saver Off radio button?*
        beq main_wait           ; Yes, DON'T turn it off.*

        cmp.w #INFO,d7          ; Is it the INFO button?*
        beq info_do             ; Yes, handle it!*

*       Turn off selected button.*

main_turn_off                   *
        move.l dialog_main,a3   ; Get address of main dialog.*
        move.l 20(a3),d3        ; Get width and height of main box.*
        add.l #$20002,d3        ; Add size of shadow.*
        move.l a3,-(a7)         ; Address of main dialog object tree.*
        move.l #$20FFFF,-(a7)   ; New state is unselected; redraw.*
        move.l d3,-(a7)         ; Width and height of clipping rectangle.*
        move.l 16(a3),-(a7)     ; XY coordinate of clipping rectangle.*
        move.w d7,-(a7)         ; Object number to change.*
        bsr objc_change         ; Draw dialog on screen.*
        adda.w #18,a7           ; Adjust stack.*

        cmp.w #MAINDONE,d7      ; "Exit"?*
        beq main_exit           ; Yes, close up dialog, we're done.*

        bra main_wait           ; Wait for more dialog stuff.*

*       User clicked "Exit".    *

main_exit                       *
        move.l dialog_main,a3   ; Get address of main dialog.*
        bsr remove_dialog       ; Remove it from screen.*

        clr.w -(a7)             ; End screen redraw.*
        bsr wind_update         ; Lock out other screen drawing.*
        addq.l #2,a7            ; Adjust stack.*

        bra wait                ; Now go back and wait.*

*       Do the INFO dialog.     *

info_do move.w d7,-(a7)         ; Save selected button in main dialog.*

        move.l dialog_main,a3   ; Get address of main dialog.*
        bsr remove_dialog       ; Erase it.*

        bsr allow_redraw        ; Allow windows to redraw.*

        move.l dialog_info,a3   ; Get address of info dialog.*
        bsr draw_dialog         ; Draw it.*
```

```
info_wait                       *
        move.l dialog_info,-(a7) ; Address of info dialog.*
        clr.w -(a7)             ; Number of first editable object (none)*
        bsr form_do             ; Handle dialog.*
        addq.l #6,a7            ; Adjust stack.*

        bclr #15,d0             ; Clear high bit (just in case).*
        move.w d0,d7            ; Save this in a safe place.*

*       Turn off selected button.*
        move.l dialog_info,a3   ; Get address of info dialog.*
        move.l 20(a3),d3        ; Get width and height of main box.*
        add.l #$20002,d3        ; Add size of shadow.*
        move.l a3,-(a7)         ; Address of main dialog object tree.*
        move.l #$20FFFF,-(a7)   ; New state is unselected; redraw.*
        move.l d3,-(a7)         ; Width and height of clipping rectangle.
        move.l 16(a3),-(a7)     ; XY coordinate of clipping rectangle.*
        move.w d7,-(a7)         ; Object number to change.*
        bsr objc_change         ; Draw dialog on screen.*
        adda.w #18,a7           ; Adjust stack.*

        cmp.w #INFODONE,d7      ; Is it the button (should be)?*
        bne info_wait           ; No, keep waiting.*

*       Hide info dialog and redraw main dialog.*
        move.l dialog_info,a3   ; Get address of info dialog.*
        bsr remove_dialog       ; Erase it.*

        bsr allow_redraw        ; Allow windows to redraw.*

        move.l dialog_main,a3   ; Get address of main dialog.*
        bsr draw_dialog         ; Draw it.*

        move.w (a7)+,d7         ; Restore selected button number.*
        bra main_turn_off       ; Now turn off button in main dialog.*

*       Error--accessory cannot operate.*
rsc_err pea rsc_err_alert       ; Error alert.*
        move.w #1,-(a7)         ; Default button.*
        bsr form_alert          ; Do alert.*
        addq.l #6,a7            ; Adjust stack.*

ewait   pea aes_msg             ; Address of AES message buffer.*
        bsr evnt_mesag          ; Wait for AES message.*
        addq.l #4,a7            ; Adjust stack.*

        bra ewait               ; Ignore all messages.*

*       Error--cannot install accessory.
exit    clr.w -(a7)             ; pterm0
        trap #1                 ; GEMDOS(0)


*-------------------------------*
*       Subroutines...          *
*-------------------------------*
*       Allow windows to redraw after dialog has been hidden.*
allow_redraw                    *
        move.w d3,-(a7)         ; Save this register.*
        moveq #49,d3            ; Loop 50 times.*

allowl  clr.w -(a7)             ; End screen redraw.*
        bsr wind_update         ; Lock out other screen drawing.*
        addq.l #2,a7            ; Adjust stack.*

        move.w #1,-(a7)         ; Start screen redraw.*
        bsr wind_update         ; Lock out other screen drawing.*
        addq.l #2,a7            ; Adjust stack.*

        dbra d3,allowl          ; Do the wind_update loop repeatedly.*

        move.w (a7)+,d3         ; Restore this.*
        rts                     ; All done.*

*       Draw a dialog pointed to by a3.*
draw_dialog                     *
        move.l 20(a3),d3        ; Get width and height of main box.*
        add.l #$20002,d3        ; Add size of shadow.*
        move.l d3,-(a7)         ; Put width & height on stack.*
        move.l 16(a3),-(a7)     ; Put XY coordinate of box on stack.*
        clr.l -(a7)             ; The first box coordinates are ignored.*
        clr.l -(a7)             *
        clr.w -(a7)             ; Function 0: reserve screen area.*
        bsr form_dial           ; Phew!  Do it.*
        adda.w #18,a7           ; Adjust stack.*

        move.l a3,-(a7)         ; Address of main dialog object tree.*
        move.l d3,-(a7)         ; Width and height of clipping rectangle.
        move.l 16(a3),-(a7)     ; XY coordinate of clipping rectangle.*
        move.l #7,-(a7)         ; Draw object #0 and all sub-trees.*
        bsr objc_draw           ; Draw dialog on screen.*
        adda.w #16,a7           ; Adjust stack.*

        rts                     ; All done.*

*       Remove a dialog pointed to by a3.*
remove_dialog                   *
        move.l 20(a3),d3        ; Get width and height of main box.*
        add.l #$20002,d3        ; Add size of shadow.*
        move.l d3,-(a7)         ; Put width & height on stack.*
        move.l 16(a3),-(a7)     ; Put XY coordinate of box on stack.*
        clr.l -(a7)             ; The first box coordinates are ignored.*
        clr.l -(a7)             *
        move.w #3,-(a7)         ; Function 3: release screen area.*
        bsr form_dial           ; Do it.*
        adda.w #18,a7           ; Adjust stack.*

        rts                     ; All done.*

*       Clear AES global array before doing any AES stuff.
clear_aes
        clr.l ap_ptree          ; Pointer to resource stuff.
        clr.l ap_lresv          ; Reserved for use by TOS--don't mess!
        clr.l ap_2resv
        clr.l ap_3resv
        clr.l ap_4resv

        rts

*       appl_init AES call--initialize application for use with AES.
*       Returns the application id in d0.
appl_init
        move.l #p_appl_init,aes_pb ; Address of new control array.
        bra aes                 ; Do AES and return.

*       menu_register AES call--register accessory in Desk menu.
*       4(a7)   Address of menu text.
*       Returns the menu id in d0.
menu_register
        move.l #p_menu_register,aes_pb ; Address of new control array.
        move.w ap_id,int_in     ; Application ID.
        move.l 4(a7),addr_in    ; Address of menu text (from stack).
        bra aes                 ; Do AES and return.

*       evnt_mesag AES call--wait for an AES message.
*       4(a7)   Address of message buffer.
*       Returns junk in d0.
evnt_mesag
        move.l #p_evnt_mesag,aes_pb ; Address of new control array.
        move.l 4(a7),addr_in    ; Address of message buffer.
        bra aes                 ; Do AES and return.

*       form_alert AES call--do an alert box.
*       6(a7)   Address of alert box string.
*       4(a7)   Default button.
*       Returns selected button in d0.

form_alert
        move.l #p_form_alert,aes_pb ; Address of new control array.
        move.w 4(a7),int_in     ; Default button.
        move.l 6(a7),addr_in    ; Alert box string.
        bra aes                 ; Do AES and return.

*       rsrc_load AES call--load .RSC from disk.*
*       4(a7)   Address of filename.*
*       Returns error in d0.    *
rsrc_load                       *
        move.l #p_rsrc_load,aes_pb ; Address of new control array.*
        move.l 4(a7),addr_in    ; Filename.*
        bra aes                 ; Do AES and return.*

*       rsrc_gaddr AES call--determine the address of an item.*
*       6(a7)   Index number of item to search for.*
*       4(a7)   Type of item to search for (0=tree).*
*       Returns the address in d0.L.*
rsrc_gaddr                      *
        move.l #p_rsrc_gaddr,aes_pb ; Address of new control array.*
        move.l 4(a7),int_in     ; Copy over both parameters.*
        bsr aes                 ; Do AES.*

        move.l addr_out,d0      ; Copy address to d0.*
        rts                     ; All done.*

*       form_center AES call--centers an object tree on the screen.*
*       4(a7)   Address of dialog tree to center.*
*       Returns junk in d0 and box coordinates in int_out(1)-int_out(4)*
*       Trashes a0 (which it uses to copy coordinates to dialog).*
form_center                     *
        move.l #p_form_center,aes_pb ; Address of new control array.*
        move.l 4(a7),addr_in    ; Address of object tree.*
        bra aes                 ; Do AES.*

        move.l 4(a7),a0         ; Address of object tree.*
        move.l int_out+2,16(a0) ; Copy over XY.*
        move.l int_out+6,20(a0) ; Copy over WH.*
        rts                     ; All done.*

*       form_dial AES call--various dialog functions.*
*       14(a7)  xywh (one word each) for second rectangle.*
*       6(a7)   xywh (one word each) for first rectangle.*
*       4(a7)   Function.       *
*       Returns error in d0.    *

form_dial                       *
        move.l #p_form_dial,aes_pb ; Address of new control array.*
        move.w 4(a7),int_in     ; Function number.*
        move.l 6(a7),int_in+2   ; Copy over coordinates.*
        move.l 10(a7),int_in+6  *
        move.l 14(a7),int_in+10 *
        move.l 18(a7),int_in+14 *
        bra aes                 ; Do AES and return.*

*       objc_draw AES call--draw an object (or tree) on the screen.*
*       16(a7)  Address of object tree.*
*       8(a7)   xywh (one word each) of clipping rectangle.*
*       6(a7)   Depth to redraw tree (usually 0 or 7).*
*       4(a7)   Number of first object to be drawn.*
*       Returns error in d0.    *

objc_draw                       *
        move.l #p_objc_draw,aes_pb ; Address of new control array.*
        move.l 4(a7),int_in     ; Copy over start object and depth.*
        move.l 8(a7),int_in+4   ; Copy over coordinates.*
        move.l 12(a7),int_in+8  *
        move.l 16(a7),addr_in   ; Object tree address.*
        bra aes                 ; Do AES and return.*

*       wind_update AES call--get or release control of drawing or mouse.
*       4(a7)   Function.       *
*       Returns error in d0.    *

wind_update                     *
        move.l #p_wind_update,aes_pb ; Address of new control array.*
        move.w 4(a7),int_in     ; Function number.*
        bra aes                 ; Do AES and return.*

*       form_do AES call--let GEM handle the dialog.*
*       6(a7)   Address of dialog tree.*
*       4(a7)   Number of first editable object.*
*       Returns selected object in d0; if bit 15 is set, it indicates*
*       the object was double-clicked (only works for Touchexit objects).

form_do                         *
        move.l #p_form_do,aes_pb ; Address of new control array.*
        move.l 6(a7),addr_in    ; Address of dialog tree.*
        move.w 4(a7),int_in     ; Number of first editable object.*
        bra aes                 ; Do AES and return.*

*       objc_change AES call--change state of an object and (maybe) redraw.
*       18(a7)  Pointer to object tree.*
*       16(a7)  Redraw flag--if zero, object is not redrawn.*
*       14(a7)  New state for object.*
*       6(a7)   xywh (one word each) of redraw clipping rectangle.*
*       4(a7)   Object number to change.*
*       Returns error in d0.    *
```

```
objc_change                     *
        move.l #p_objc_change,aes_pb ; Address of new control array.*
        move.w 4(a7),int_in     ; Object to change.*
        clr.w int_in+2          ; Unused parameter.*
        move.l 6(a7),int_in+4   ; Copy over clipping coordinates.*
        move.l 10(a7),int_in+8  *
        move.l 14(a7),int_in+12 ; Copy new state and redraw flag.*
        move.l 18(a7),addr_in   ; Copy pointer to object tree.*
        bra aes                 ; Do AES and return.*

*       graf_handle AES call--returns VDI workstation handle and cell size.
*       Returns these in int_out.*
graf_handle                     *
        move.l #p_graf_handle,aes_pb ; Address of new control array.*
        bra aes                 ; Do AES and return.*

*       Call the AES--arrays must be set up before calling this!
*       Returns first word of int_out in d0.

aes     movem.l d0-d7/a0-a6,-(a7) ; Save all registers.

        move.w #200,d0          ; AES function number.
        move.l #aes_pb,d1       ; Address of AES parameter block.
        trap #2                 ; Call GEM.

        movem.l (a7)+,d0-d7/a0-a6 ; Restore registers.
        move.w int_out,d0       ; Get error code/result.
        rts                     ; All done.

*-------------------------------*
*       Fixed data section.     *
*-------------------------------*
        section data

*       AES parameter block.  This gives TOS the addresses of the
*       other arrays.  Nice for C, a pain for assembly.
aes_pb          dc.l 0,global,int_in,int_out,addr_in,addr_out

*       AES function control arrays.  The address of one of these
*       arrays replaces the address of the control array (first array
*       in aes_pb, listed above as zero since it gets replaced!)
*       The first item is the AES opcode, the other four are the
*       number of parameters in the int_in, int_out, addr_in, and
*       addr_out arrays.

p_appl_init     dc.w 10,0,1,0,0
p_evnt_mesag    dc.w 23,0,1,1,0
p_form_alert    dc.w 52,1,1,1,0
p_form_center   dc.w 54,0,5,1,0 *
p_form_dial     dc.w 51,9,1,0,0 *
p_form_do       dc.w 50,1,1,1,0 *
p_graf_handle   dc.w 77,0,5,0,0 *
p_menu_register dc.w 35,1,1,1,0
p_objc_change   dc.w 47,8,1,1,0 *
p_objc_draw     dc.w 42,6,1,1,0 *
p_rsrc_gaddr    dc.w 112,2,1,0,1*
p_rsrc_load     dc.w 110,0,1,1,0*
p_wind_update   dc.w 107,1,1,0,0*

*       Miscellaneous text data.
menu_item       dc.b '  STA ScreenSaver  ',0

rsc_err_alert   dc.b '[3][| Cannot find | | SSAVER.RSC! ][    Nuts!    ]',0 *
rsc_name        dc.b 'SSAVER.RSC',0*

        even

*-------------------------------*
*       Variables section.      *
*-------------------------------*
        section bss

global
ap_version      ds.w 1          ; Global array, used by the AES for
ap_count        ds.w 1          ; various things.  Basically, don't
ap_id           ds.w 1          ; worry about what's in here, it isn't
ap_private      ds.l 1          ; important at the moment.
ap_ptree        ds.l 1
ap_1resv        ds.l 1
ap_2resv        ds.l 1
ap_3resv        ds.l 1
ap_4resv        ds.l 1

*       AES arrays.
int_in          ds.w 128        ; INTIN array--word-size inputs.
int_out         ds.w 128        ; INTOUT array--word-size outputs.
addr_in         ds.l 64         ; ADDRIN array--address inputs.
addr_out        ds.l 64         ; ADDROUT array--address outputs.

*       Other AES variables.
menu_id         ds.w 1          ; Menu ID (for accessory).
aes_msg         ds.w 8          ; AES message buffer.
dialog_main     ds.l 1          ; Address of main dialog.*
dialog_info     ds.l 1          ; Address of info dialog.*

*       A little stack space...
                ds.l 256        ; It's not much, but it will do.*
stack
```


100

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Going On-Line

KM-Term

Mark Baines

Regular readers will be aware of my concern for making comms as painless and as cheap as possible, especially for the newcomer. The first step, apart from getting a modem, is obtaining a terminal program that doesn't look like a nuclear power station control centre. Although I've recommended Freeze Dried Terminal many times I admit that it is hard, even for the experienced user, to initially get to grips with. Its mass of control panels and buttons and the idiosyncratic user-interface is enough to put off many people who just want to click on a program and get on-line! DTerm and Uniterm have that simplicity and ease of use, but they also have severe limitations which restrict them when the user becomes more confident. This is where KM-Term comes in.

Clear and simple

KM-Term is written by Kevin Millican who has aimed to produce a terminal program of elegant simplicity whilst also providing it with power, which, until it is needed, is hidden from the user. It is basically a VT52 terminal with partial VT100 and ANSI emulation where the latter's escape codes are intercepted by KM-Term and converted to the equivalent VT52 commands. Colour control sequences are converted to one of four colours in medium resolution (true ANSI uses eight colours) or one of three fonts and inverse text in mono. Kevin claims that to make KM-Term fully ANSI compatible would make the program bigger and slower. However, it adequately copes with most ANSI menus and animations.

When you load up KM-Term you are presented with a blank screen and a cursor - this is a full 25-line terminal with the occasional program message displayed on the top line which will be overwritten by the BBS when on-line. Hold the left mouse button to move the text cursor to anywhere on the screen, press Shift or Control at the same time to send the new screen co-ordinates to the remote modem in VT52 or ANSI format.

Press HELP and you get the Help screen which lists the control keys, the duration of the call, the current call cost and other pertinent data, such as the RS232 port settings. You can go back to the terminal by pressing a shift key or mouse button so as not to send extraneous characters to the remote modem when on-line.

The right mouse button accesses the single Control Panel where the serial port settings and desired transfer protocol are set up. From here you can also configure the Function Keys Macros (where you can set up your commonly used strings, such as name and password); set up the list of other programs to run from within KM-Term; set up and access the Autodialler slots; access the external editor and save the current configuration. Kevin sees KM-Term as a shell program to do all your comms work from, so that your editor, off-line reader, file archivers and other utilities can all be run from one convenient place. Accessories are also available.

ALT-key combinations control KM-Term from within the terminal. You can transfer files with XYZmodem (there is no autotransfer capability), call up Jekyll (see issue 27), send an ASCII file, save the capture buffer, run external programs or an editor, use accessories, send a macro, change the foreground and background colours in medium resolution or change the fonts or invert the screen in mono mode. ALT-Z will display the on-line Help file documentation.

Power

Some of the power of KM-Term is unleashed with the use of the Autodialler slots (including call rate and Mercury compatibility) and Autologon sequences. The documents explain these aspects very clearly so that any user can enable KM-Term to connect to a BBS and go through the log on procedure automatically. All of this data is saved in the configuration file which can be edited manually; in fact some parameters can only be made by direct editing. This may look difficult at first but, again, it is well explained in the Help file which is an excellent example of how to write manuals. It never assumes anything on the part of the reader and even includes a section called 'New to Comms'.

One very innovative feature is the Host Mode where KM-Term can be left to answer the phone and act as a mini-BBS system. Initially, Chat Mode is set so that the caller can talk to you but by typing in simple commands they can access a menu, read text files you have left for them or run Jekyll so that files can be transferred in either direction. This could be very useful if you need to access your own computer and files whilst away from home or want a friend to obtain a file when you aren't in.

KM-Term is written in HiSoft Power Basic and some assembler and is in continual development and well supported by the writer. Being shareware, it costs only £5 to register whereas £10 will get you the latest version and the source code, which you can play with and modify if you wish. FZDT costs £15 to register. It can be obtained from most Atari BBS systems with the latest version always at System ST (0533 413443, Times: 22:00 - 07:00, Speeds: 1200 - 9600 bps with MNP5). Kevin provides support there or at StarNet/ SchoolNet UK BBS (0603 507216) which is on the FidoNet network.

SupraFAXModem Update:

All new SupraFAXModems now come with the new v1.8 ROMs. I now get perfect 14400 long distance connects every time to any modem, even HSTs and other Supras. The SupraFAXModem has come of age and can compete with the best in the market and at around £250 for 14400 data and fax, V.42 and V.42bis it is highly recommended.

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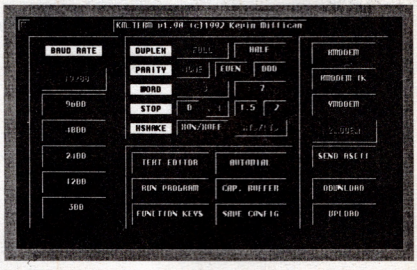
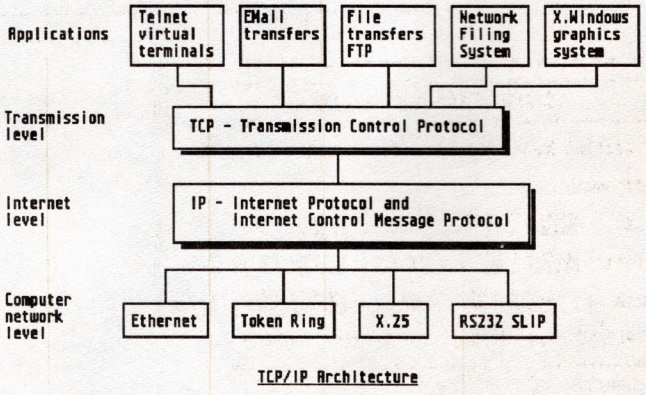
msbaines@cix.compulink.co.uk
FidoNet:
2:259/29.10@fidonet.org
NeST:
90:105/5@nest.ftn
TurboNet:
100:106/0.10@turbonet.ftn



▷ KM-Term's only Control Panel, clear and simple.



TCP/IP Architecture

△ The Help screen showing the control keys available and current settings.

UPDATE

Version 13.9 ~ December 1993

'ST Computer': German PD and Shareware Disks

The following disks have been compiled by ST Computer magazine in Germany. Most of the programs run in mono and the programs and documentation are usually supplied in German only.

STC.472

◆ MBL - Motorboat licence: training program for sea and inland water travel, with day and night signals, etc.

STC.473 Midi

◆ DX-Bunker: data transfer (sound library) and management between Yamaha-DX7 and ST. Program looks for sounds and names. User friendly.
◆ TG33EDI: Editor and Bank Manager for the TG33. Voices can be transferred and manipulated in many ways. (M)
◆ Boss Me-5: produces impressive sounds. (M)
◆ Kawai Soundrobot: for loading, sending and amending sounds. (Kawai K4/K4r)
◆ Kawai K1: Sound manager. Transfers and mixes sound libraries. (M)
◆ MT 32/D 110 Banktanker: Transfers, analyses, converts and produces sounds. (M)

STC.474

◆ FSel: file selector with new options, e.g. shows tree structure, several extensions simultaneously.
◆ Call TTP: Extended TTP command line.
◆ FileFinder 1.1: Fast search of files on floppy or hard disk.
◆ Megafree: shows free RAM up to 10MB.
◆ D-Info-N: info on drives and files.
◆ Miniworth: help with monthly accounts and VAT for small businesses. (M)
◆ Satellite: multi-tool, cf P 2299.
◆ STenlarge: large screen simulator. (M) <bullet2>Split it: splits files into as many parts as required and puts them back together again. (M)

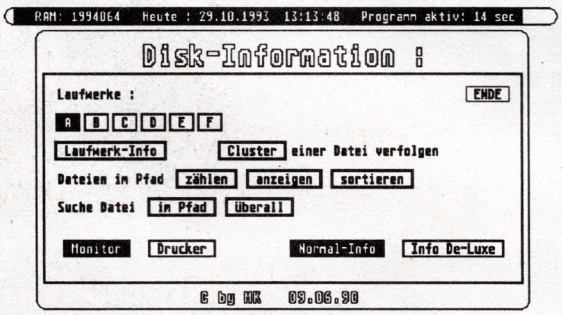
STC.475

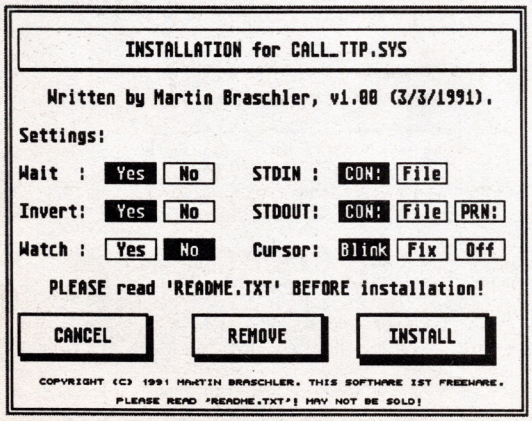
◆ Detector: searches through files for text strings.
◆ Collecto: help for GFA programmer.
◆ GFA-BLK: cuts blocks from graphics and converts them into GFA code.

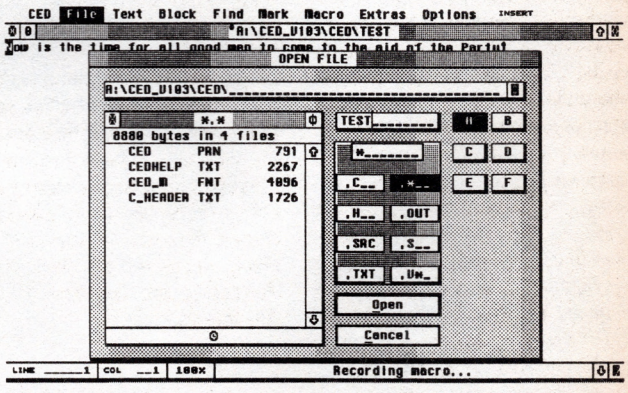
STC.476 School

◆ Caesar's Greetings: Latin tutorial with cards. Extendable, also for other languages.
◆ For school: program pack for physics and

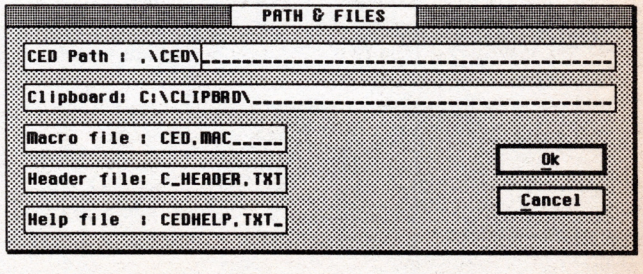
▽ STC..474 ▷

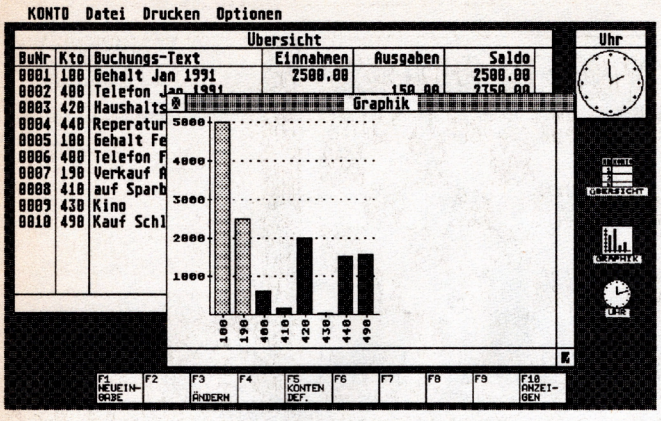




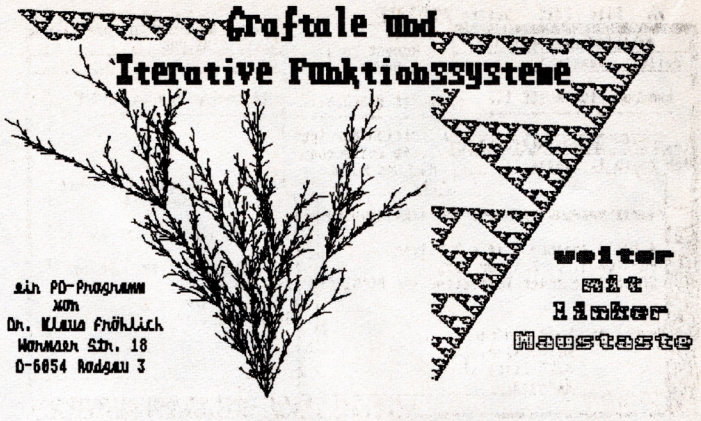


▽ STC..480 △

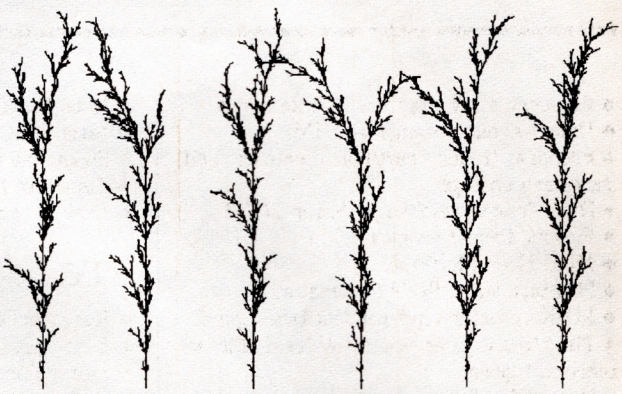




△ STC..480 'Konto' - Accounts



△ STC..487: 'Graph IFS' ▽



maths with graphic representation of results.

STC.477 MIDI

◆ Squirrel: bank loader for Yamaha QY10. With 16 Christmas carols (also in Notator format). (M)

STC.478

◆ HaBu: keeps track of your personal finances. (M)
◆ 99th-Bio: calculates biorhythms, prognoses. (M)
◆ Hueckel: calculates MO's and orbit energies (theoretical chemistry).

STC.479 Games

◆ HASCS II: expedition to Vartoria: role game. (M)
◆ Das Kreh-Orakel: tips for completion of HASCS II - The Duke's Agent - with answers to all the questions that might hinder progress. (M)

STC.480

◆ CED 1.03: text editor with comprehensive functions.
◆ Tiluie: Address database. (M)
◆ Konto: Accounts management with graphics. (M)

STC.481

◆ eXtended form-do()-Lib 1.2: Dialogue manager with movable dialogue boxes, new buttons, etc.
◆ Mechanism 1: calculates cog mechanisms up to 3 levels and 3 cogs. (M)
◆ Bending: calculates tension and deformation of bending of different materials incl. woods. (M)

STC.483-484

◆ High End 3.8: helps with calculations for building your own loudspeakers.

STC.485 Games

◆ Icecold II: continues the action game. (M)
◆ Pipes: two great games in one; Single: Wheel of Fortune conversion (TV game show). No real prizes but also fortunately no commercials! (M)

STC.486

◆ Genea: genealogy program. (M)
◆ STamps: organises your West German (FRG) stamp collection; calculates value of collection and includes search feature.

STC.487

◆ Fractals: extremely flexible fractal program (Mandelbrot, Julia, Newton) with option to carry out calculations in the background.
◆ Graph-IFS: produces and manipulates graphs and iterative function systems.

STC.488

◆ Attrio: sets file attributes.
◆ Conv-RSC: converts RSC files to assembler source code.
◆ Send-to: sends any codes to the serial or parallel port. (M)
◆ Spool-CPX: configurable spooler for XControl.
◆ DiskView: floppy and hard disk tool. (M)

STC.490 Graphics

◆ Room. Can also generate animations. (M)

STC.491

◆ Bandmanager: Data files for the management of a (pop) group. Repertory, songs, interpretations, arrangements, etc.
◆ Datebook: Terminal management.
◆ GEM View: loads, shows and changes pictures of different formats; runs in s/w and up to 256 colours. Converts to mono and saves as IMG.
◆ Meta-Bit: vector graphics convertor - GEM metafiles to bit-map images (IMG, PCX, TIFF, PIC, PAC). (M)

STC.492

◆ MultiDiskCopy: copies disk's contents to one file that can be copied again to disk (also does two disks simultaneously).
◆ Diskinfo 3.00/III: gives info on a disk.
◆ LittleMemView: RAM-Monitor (also TT). Shows Cookie variables and system variables of TOS.
◆ Multiformat: flexible format program.
◆ Orion: Virus spotter.
◆ CPX: CPX-Module. Runs with XControl.

STC.493

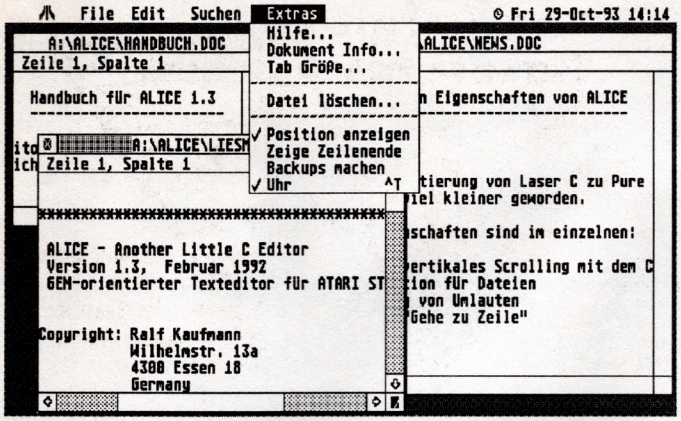
◆ Domino: board game. (M)
◆ Halma: Halma against the computer. (M)
<bullet2>Roll-X: you must move your balls on a hidden playing field and collect objects. (M)
◆ Ultris: Tetris with extras. (M)

STC.494

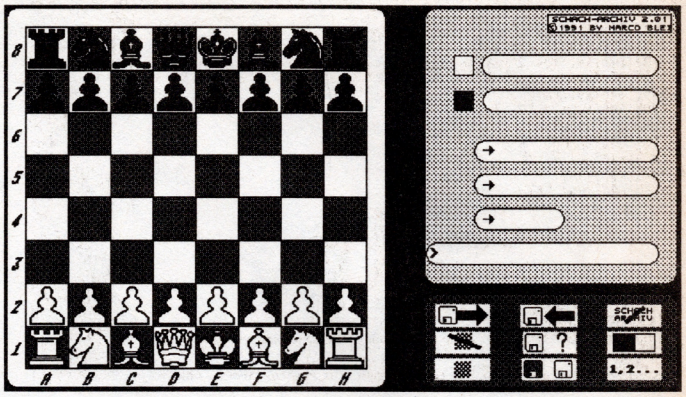
◆ Chaos Studio: Calculation of mandalas, psycho-pictures, etc. Poster print. (M)
◆ DFU-Lexicon: contains info and explanations for data transfer. (M)
◆ Calories: supervises your calorie intake and works out nutritional values. (M)
◆ Mandle-Power: Mandelbrot generator. (M)
◆ TI-Gap-T: Luckentext tutorial.

STC.495

◆ AccStart: change accessories without reset.



△ STC..501 'Alice' - Text Editor



△ STC..501 'Chess Archive'

◆ Autosort: sorts programs in Auto folder.
◆ Datadisk: disk management. (M)
◆ FileScan: reads partition contents and shows any changes.
◆ Drv-Mem: shows free RAM for ST/TT.
◆ Format: format program.
◆ Multitalent: Multi-tool.
◆ PC-Start: starts PC/AT emulators.
◆ RDDI: resolution-independent Desktop.Inf.
◆ Tistart: computer waits for hard disk to reach full speed.
◆ WS-DOS 1.5:

STC.496

◆ MPlayer: plays samples in background. Converts and plays 4-voice Amiga sounds.

STC.497

◆ Report book.
◆ Groundplot: function plotter. (M)
◆ Is-Deutsch: tutorial for spelling with exercises and word games. (M)
◆ ST-Vocab Plus: vocabulary tutorial with large word list from different areas and subjects. (M)

STC.498
TI-Game Collection

◆ 123: who eats the last frog?
◆ Frogs: tactics game.

KEY

(M) - Runs in High Resolution Mono.

(C) - Runs in Medium or Low Resolution Colour.

(1Meg) - Needs one megabyte of RAM.

The Order Form and prices for these disks is on Page 57

◆ Isola: Block the opponent.
◆ Mice: strategy.
◆ Shoot: ball game.
◆ Towers of Hanoi.
◆ Explode: Thinking game.

STC.500

◆ Karteye: Database. (M)
◆ Key-Desk: Keys for the Desktop.
◆ Pyromake: screen saver with fireworks.
◆ Deposit: Tetris variation in 3D. (M)
◆ Telephone: telephone register. (M)
◆ Fast File Finder: finds files.
◆ Clock: analogue clock with alarm and Big Ben.
◆ V-Disk: reset-proof bootable RAM-disk.
◆ Winx: allows up to 128 GEM windows.
◆ Digiclock: shows current time on the menu line.
◆ Skat: card game. (M)
◆ Maze: labyrinth game. (M)
◆ Push Box: box pushing game. (M)

STC.501

◆ Alice 1.2: text editor - loads up to ten texts at a time.
◆ Rent mirror: research into comparative local rents for Munich.
◆ Rhythm: biorhythms with partner comparison and comprehensive analysis. (M)
◆ Rushes: Terminal calendar. (M)
◆ Chess archive: data bank with well known chess games. (M)

STC.502 Games

◆ 17 and 4: card game. (M)
◆ Peking: variation on the Chinese game Mah Jong. Pieces can be changed, four types supplied on disk. (M)
◆ Shift Two: identical stones explode and give the player points when they touch. (M)

STC.503 Utilities

◆ Selectric: file selector box with many functions.
◆ Printer: printer driver for HP DeskJet (cf STC.430). Now with proportional fonts and landscape printing.

STC.504 MIDI

◆ SY22Edit: editor for Yamaha synth with many functions. (M)

STC.505

◆ Album 91: Picture management. Produce clip art from pictures of different formats. (M)
◆ Unilex 120: version 1.30 s. K 7006. (M)
◆ Vocab: teach yourself English.

STC.506

◆ Finance: home finances. (M)
◆ Hypertext: hypertext system. (M)
◆ Accounts: accounts installation and small book-keeping program.
◆ CPX-Module: biorhythms, horror puzzle, Mastermind, spooler, calendar, formatter, etc.

STC.507

◆ ASCII: creates and prints Ascii texts.
◆ HD-Prof: hard disk management.
◆ Little Net: connects two computers.

STC.508

◆ Accounts: for clubs, small businesses and home.
◆ Finance 27: accounts (loans, savings, etc.) (M)

STC.509

◆ Banker: tutorial for banking students. (M)

STC.510

◆ DeriCalc: maths program. (M)
◆ Maths: maths interpreter.
◆ Shooting: analysis and evaluation of bets.
◆ Ultimate Label: label printer with inbuilt graphics program. (M)

Beginners' Forum

Mark Baines

Backing Up

One of the things that takes beginners a long time to learn is that, at some point in the future, some of the files they have created *will* be lost. Often this lesson is learnt the hard way – when it is too late.

Data loss is inevitable. It happens to the largest of corporations, it happens to me. It will happen to you, there is no doubt about that. Knowing it will happen is one of the biggest lessons you can learn and half the battle is preparation against it.

How is data lost?

1. Accidental erasure. How often have you deleted a file you didn't mean to? It can happen when you simply drag the wrong file to the trash can, or give the wrong delete command in a command line interface in some program – a common mistake is the overuse of file name wild cards, as in DEL *.* which means delete everything!
2. Accidental overwriting. It's quite easy in a program, such as a word processor, to load up a file to look at and then use it as a template for another file, adding to it, deleting sections, etc. and then automatically giving the save command forgetting that this file would be saved under the same name as the original file which now doesn't exist any more.
3. Updating with incorrect data. Commonly happens in database type programs, where you update existing records only to find later that your data is incorrect, or placed in the wrong records or fields.
4. Disk corruption. Disks, especially floppy disks, get corrupted – again, it's a fact of life. Some of the reasons why they do are hard to explain: one day they work, the next they don't. As the data is stored as magnetised patterns it stands to reason that other magnetic sources will affect that data, such as anything with a loudspeaker (TVs, radios, etc.). Static electricity, heat, spilt tea, cat hairs are all potential hazards. Be sensible, keep disks in boxes away from such dangers. When you have finished with them, put them back.

   Don't be too eager to remove floppies from their drives. Wait till the light goes out first. If the head is still engaged over the disk, its removal will corrupt it. Also, don't turn off computers, reset them or remove the disk until you have correctly exited the application you are using and are sure that it has finished writing to the disk. More people are using disk caches but it is increasingly common to find that these users suffer disk corruption because they reset or turn the computer off before the cache has finished writing to the disk. Always wait for a few seconds of inactivity first, then turn it off.
5. Hard disk crash. The nightmare scenario for all hard disk users. Some disks last longer than others, some don't like being constantly turned on and off, some are badly treated (don't move the disk drive or the desk when it is switched on). Some suffer from having a dodgy DMA chip, some suffer from TOS 4 on the Falcon and its knack of overwriting a partition's FATs, some have serious electricity supply problems with spikes and dropouts. Whatever the reason, the hard disk will fail one day.
6. Virus attack. All viruses are dangerous, even the so-called benign ones. I'll cover viruses at another time in more detail but for now, get a virus killer and use it.
7. Fire, flood, pestilence and disease... I mentioned last month that I keep all my master disks in a separate room away from my computer room. If the whole house is lost in a fire, then there is nothing I could have done anyway, but one of the likeliest rooms to catch fire is my study with a dozen electrical items. Obviously, I have smoke detectors installed. Safe storage of your master disks and backups is important – they are a serious investment of time and money.
8. Malicious damage. Only really applies to networked computers and hackers and disgruntled employees (or spouses?!).

What should be backed up?

Firstly, all data files that you produce through the use of an application. All your word processor documents, spreadsheets, database files, programming source files, images and so on. These are easy to identify.

What are often forgotten are the configuration files, the .INF, .DAT, .CFG files, etc., that programs store their default settings in. Some of these you may have had to write by hand in an editor, some are actually stored within the program file itself and are less obvious. Don't forget your ASSIGN.SYS, DESKTOP.INF, NEWDESK.INF, GEM.CNF, MINT.CNF, the NeoDesk resource file with all your icons in it, your altered system font files, XControl's CONTROL.INF etc. Also, what about your word processor user dictionary file, macros files, the database query files and forms, your accessory address database, the CAD program's symbol libraries, your game hi-score tables, the German program's resource file you translated into English...? There are a surprising number of these files – lose these and you effectively lose your whole system as you know it!

Program files, including resource and help files, don't usually need backing up as long as their installation hasn't altered them in some way or that their configuration details are stored separately. You should have a backup copy of every program you possess anyway (OK some games can't be copied) and be working from them rather than masters – disks are cheap, programs aren't. NEVER work from a master copy.

How is backing up done?

Floppy disk based systems are easy, of course. One simple disk copy operation and you have a backup. This does waste some disk storage space as it will copy unnecessary files such as program files, but if you keep all your data on separate disks as mentioned last month, then copying will be easier. Selective copying is easy to do if you set the directory window to Show by Date. There you can see the latest files and compare them against the backup disk's directory. You can use a special backup program but this really amounts to 'overkill'.

Hard disk users have several options. The easiest and quickest is to have a hard disk or partition specifically for storing backup data. This does have many problems in that this hard disk is likely to suffer from the same predicaments as the original storage. It is not a cheap method, but with continually decreasing prices it may be tempting.

Tape streamers are popular and I refer you to Issue 8 (ICD Tape Streamer) and Issue 18 (Protar T60). SCSI tape streamers can be fitted to any TT or Falcon directly. Others users can obtain ICD's LINK which enables any SCSI device to be plugged into their ST or STE and controlled with ICD's software drivers. SCSI Flopticals are also becoming popular on the ST, again because of the LINK. These are like floppy disk drives that use special 3.5" disks that are written to by a laser beam which makes the necessary changes to the magnetic surface instead of a read/write head. Consequently, the data can be packed closer together obtaining a capacity of 21Mb. The bonus is that normal DD and HD floppy disks can also be read.

SyQuest removable cartridges are also available; indeed, Atari themselves bought out a MegaFile 44 for a short time in 1989. SyQuest cartridges have capacities of 44Mb or 88Mb and are interchangeable between PCs, Macs and STs. They are like 5.25" disks enclosed in a clear plastic case and the drive is quite large compared to modern hard disks and tape streamers.

However, most people are delighted to have a hard disk in the first place, let alone additional expensive backup storage for it. So most people have to contend

with backing up to floppy disks – a real chore and something that can take the best part of a day to do if you have a large hard disk. To make it easier you need a backup program and in the public domain I recommend either Turtle (UTI.255) or Vault (UTI.146) – see issue 1. Neither is perfect and both have several advantages over each other but they make the operation more organised and automatic than if you just did straight copies of files yourself with the chance of missing some and not fully using a floppy disk's capacity. Also highly recommended is the commercial program Diamond Back (see issue 25).

There are essentially two types of backup – a file copying process, where the files are individually copied over, or a disk image copy, where the bit representation of the hard disk sectors is exactly copied onto floppies or other storage device. The former you are familiar with. The latter is quicker and creates an exact copy of the contents of the hard disk. However, individual files cannot be extracted from this image file, which is only of use in its entirety. It also takes up more room because all the hard disk's sectors are copied regardless of whether they contain any data or not. This type of backup is probably only of importance with tape streamers and other fast backup devices.

An image backup is a full backup. Once you have copied all the files on your hard disk all that needs to be done in subsequent backups is to store the changed or new files only. There is no point in re-backing up unchanged files. This is an incremental backup and changed or new files are recognised by one of two methods, the file's archive bit or its datestamp. Most programs that update files change the datestamp but not all, unfortunately. The most notorious of these is Superbase. Also, TOS 1.0 and 1.2 have the annoying and non-standard quirk of updating the datestamp when a file is simply copied. So the datestamp really can't be relied upon. The archive bit is bit five of the file attribute byte (see box) which TOS 1.4 and above set when the file is created or written to. This can be used by a backup program which looks for all files with set archive bits. When it copies them to another storage medium it then resets the archive bit. Incremental backups can then be done at regular intervals – at least every week. If each incremental backup is done to a different floppy or placed within folders then you can easily refer to old files – even several generation of files – especially useful in programming.

In theory, backups should be made to maintain three generations of files, son, father and grandfather files. If using a tape streamer or floptical you need three tapes or disks. Each new backup becomes the son – the latest generation – and each other backup becomes one generation older, the father then grandfather. On the fourth backup, the grandfather tape or disk is then used as the son backup tape, overwriting it. This process is often necessary if regular backups are made because it may take a while to notice that the wrong data has been written at some time in the past. In fact, the more often you back up the more generations you ought to have to guard against data loss due to overwriting with incorrect data.

Send me a letter or EMail with ideas for future articles. Thank you for the letters received so far. Although I can't promise to respond to all personal queries, I'll do my best if a SAE is enclosed. You will also find me on CIX and the NeST, TurboNet and FidoNet BBS networks where this magazine is supported.

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EMail:

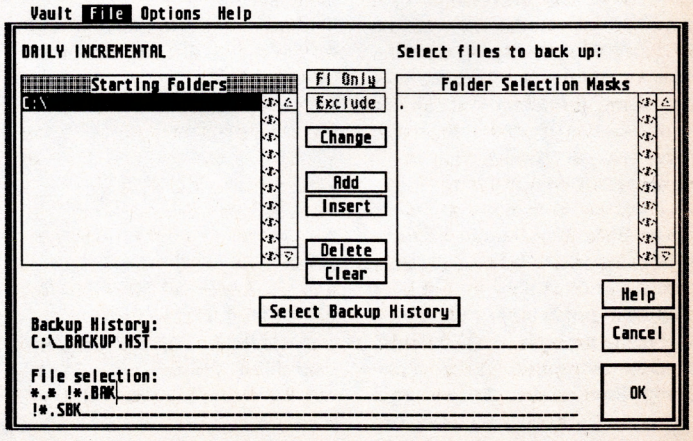
Internet:: msbaines@cix.compulink.co.uk
NeST: 90:105/5
STA support in N.ST.MISC echo
FidoNet: 2:259/29.10
STA support in ATARIST echo
TurboNet: 100:106/0.10
STA support in T_ATARIS echo

File Attribute Byte

This is a byte attached to a file indicating whether it can be or has been written to, whether it is hidden or a system file, or whether its name is that of a subdirectory or volume.

Attribute bit	Name	Meaning
0	Read-Only	Denies delete and open for write
1	Hidden	Hides file in directory window
2	System	Hides file in directory window
3	Volume label	File name is a volume label
4	Subdirectory	File name is a subdirectory name
5	Archive	File is new or has been modified

▽ Figure 1: VAULT backup program showing the start of an incremental backup from drive C:.



DESKTOP DISCUSSIONS

All the Fun of the Faire

William Hern reports from the Glendale Computer Show in California and assesses the state of the American ST market.

Hollywood, the Golden Gate Bridge, Disneyland, Malibu beach – the attractions of California are legion. In September of each year the Golden State has particular appeal for the ST user – it is the home of the Glendale Faire, the largest ST computer show in North America.

Now into its seventh year, the show has always attracted developers from all over America. It has also benefited by being on Atari's doorstep and the company has always exhibited at the Faire. Having heard a great deal about previous shows I decided that it was time to take a look for myself. So, the 17th of September found me flying into Los Angeles International Airport, along with hundreds of hopefuls for the Emmy television awards the following evening.

The list of the thirty exhibitors at the show read like a Who's Who of the American Atari scene. Famous names such as CodeHead, Gribnif, Branch Always and MiGraph were all in attendance as well as some companies less well known to European users. Many user groups from South California were also present.

Times are hard for ST software companies in America. According to those who had been to previous shows, this year's show was decidedly austere in style. The paper covered tables and basic decoration reminded me very much of the old SATRO shows in Aberdeen that I used to attend during my days with the Floppyshop ST user group. In a bid to entice both exhibitors and users, the show organisers cut the cost of floor space in half and also reduced the price of admission. The measures seemed to work. There was a good mix of exhibitors and over one thousand two hundred attended over the two days – a little down on last year's total but not much.

The show kicked off on the Friday evening with a developers' information session organised by Atari. Originally it was intended that this would only be for registered developers but the company had a change of heart in the week before the Faire and decided to open the information session to all. Among the Atari employees who spoke was Eric Smith, the programmer behind MiNT and MultiTOS.

The show proper, though, didn't start until the Saturday morning. It is perhaps unfortunate that the Faire will probably be remembered more for what wasn't there than what was. Much to the disappointment of all present, Atari chose not to publicly show the Jaguar. Bob Brodie, Atari's director of communications, did however have some impressive screen shots to display on the Falcons they had taken with them.

Although the Jaguar wasn't on public display, Bill Rehbock, Atari's Director of Applications Software, was giving private demonstrations of the system to a select few. From what I was able to see, the hardware of the Jaguar is finished but quite a bit of work remains to be done on the initial batch of games. Of the five games on demonstration, the scrolling shooter "Crescent Galaxy" was the nearest to completion. It is a straight forward shoot-em-up but some of the backgrounds are really eye-catching. "Tempest 2000", an updated version of that old arcade game, also looked good. The other three games, "Cybermorph", "Alien versus Predator" and "Checkered Flag II" are still in too early a stage of development to pass judgement yet.

Although the absence of the Jaguar was disappointing, there was plenty of other new products on show to make up. The star of the show in my opinion was Gribnif's multitasking environment Geneva. The product was launched at the show and displayed a remarkable degree of compatibility with existing ST software. The software was all the more impressive for the fact that it consumes only about 150K of memory.

At the moment Geneva only allows co-operative multi-tasking as it is built on top of TOS. However pre-emptive multitasking will be possible once the bugs are worked out of the version that runs on top of MiNT. Neodesk 4 – a complete revision of Gribnif's elegant desktop replacement so that it integrates seamlessly with Geneva – is still in development and is now not expected to be released until November.

Darek Mihocka demonstrated version three of his Gemulator product, the plug-in card that allows a PC to emulate an ST. A fast 486 PC can run ST software two or three times faster than an 8 MHz ST. The product attracted a great deal of attention, particularly from ST users who work in PC-only firms and saw this as a back door way of bringing their ST software into the workplace.

CodeHead were showing off version 3.8 of their Warp 9 screen accelerator. The software is now Falcon and Speedo GDOS compatible and there are a couple of new screen saver modules. Also on sale at the CodeHead stand was Calligrapher Gold – CodeHead are the official distributors of the classy word processor in North America.

That was just one example of familiar products appearing in an unfamiliar setting. Another case of this was the complete range of HiSoft software being displayed on the Oregon Research Associates stand. Some of the software had arrived so recently that not even the stand exhibitors were sure how to use it!

Over in another part of the auditorium Software Development Systems (SDS) Publishing were selling copies of their new book "The Atari Compendium" which offers a comprehensive guide to programming all flavours of the ST. After years of struggling with Atari's developer documentation – stacks of photocopied documentation supplemented with addenda for each new release of TOS – it's great to have one book that contains it all. The book is currently only available from the publishers but if everything goes to plan HiSoft should be selling it in the UK within a few months. For those who can't wait SDS' US phone number is (310) 430-0364.

No computer show could be complete without some box shifters and the Glendale Show was no different. Four megabyte 84HD Falcons were on display for $1199 and there was plenty of software on sale, much of it surprisingly old. Browsing through the second hand software was a real trip down memory lane as I came across long forgotten titles such as the Zoomracks database and the Habawriter word processor. I was also surprised to come across a copy of Infocom's "Suspended" text adventure complete in its original packaging with the life-size face mask on the front. This hasn't been on sale for nearly ten years and I was delighted to add it to my Infocom collection.

Prize for the most eye-catching stand had to go to another box shifter, Mid Cities Computers, who had a model volcano. Every so often the volcano would issue a thunderous roar and spew forth smoke. Luckily the Los Angeles fire brigade didn't find out.

Compo were present at the show demonstrating their PC emulator for the Falcon and the That's Write 3 word processor. Their Screenblaster utility which gives the Falcon additional, higher resolution screen modes was also receiving a great deal of interest.

The neatest piece of hardware that I saw came from a company called Wizztronics. Their Cartmaster product allows for up to four cartridges to be

plugged into the ST's cartridge slot at once.Cartridge selection is done through software. For users like musicians and owners of scanners this could be a real godsend. With a suggested retail price of $199, it was a little on the expensive side but for serious users the convenience factor may well justify the cost. Wizztronics can be contracted on (516) 473-2507.

Trace Technologies is the new company name for the resurrected Double Click Software. They were showing off new versions of their hard drive and program compression utilities, Data Diet and Squish respectively. Also on display was version three of Edhak, the all-purpose file viewer. The latest version is both Falcon and MultiTOS compatible.

One tradition of the Glendale show is the Saturday night party organised by CodeHead. It's a chance for all the exhibitors to gather breath after the hectic first day. The mood at the party was relaxed, most of the stall holders having done enough business already to break even, meaning that all sales on the Sunday would be profit.

Another show event that is growing into a tradition is the real time GEnie conference on the Saturday afternoon. For those who haven't encountered GEnie, it is the data network operated by General Electric and used during the working week for carrying around the country information such as stock prices. However in the evenings and at weekends, it is open for use by more general computer users to exchange electronic mail and participate in round table conferences (RTCs). In these conferences, users take it in turn to ask questions to an invited guest.

The Atari contingent on GEnie is very strong and there are regular round table conferences with various people from the Atari scene. Atari themselves have made it their official computer network and Bob Brodie has a monthly RTC. Bob also took the special show RTC and fielded a wide variety of questions from GEnie users scattered all over the American continent. Many of the questions concerned the show although there was understandable interest in the Jaguar.

The driving force behind the Glendale Show is the HACKS (Hooked on Atari Computer Knowledge Society) user group and their seemingly tireless president John King Tarpinian. Other local user groups help out and in return are given free booth space. I spent a great deal of time chatting to members of some of the groups, trying to get a feel for what it is like to be a current day ST user in America.

The Atari Computer Association of Orange County (ACAOC) in their heyday attracted nearly three hundred people to their regular meetings. That was in 1985. Now they are lucky to get thirty together for an evening. Being a committee member of the ACAOC seems to be a sure fire way of getting a job with Atari – a couple of ACAOC presidents have gone on to join Atari, including a certain Mr Brodie.

I also became a member of the South Bay Atari Computer Enthusiasts (SBACE). I did warn them that I might have to miss one or two of their group meetings! I'm indebted to their president, Eugene Bienko, who printed me some business cards at very short notice when I ran out of my own stock.

The vast majority of the users attending the show use their machines for serious purposes. Word processing is by far the most popular use. Many cited one particular package that kept them loyal to the ST and stopped them moving to a PC or a Mac. Almost everyone I talked to expressed their frustration about the shortage of Atari dealers and the limited number of outlets for buying software.

A number of users had taken their summer vacations in the UK and their impressions of the British ST scene were interesting. More than a few recalled being surprised that they could walk into a shop and see ST software on the shelves – it has been a long time since that could be done in America. The general consensus was that the British ST market is currently about where the American market was four years ago.

The ST magazines in the US have been especially badly hit by the downturn in the market. The current big three are Atari User, ST Informer and Current Notes. The reduction in advertising revenue was so severe that it forced Atari User to suspend publication back in December of last year. However the magazine staff were at the Glendale Show offering free copies of its trial relaunch issue. Mini-subscriptions for the next three issues for five dollars were also on sale. Whether it returns for good will depend on whether the Atari market expands once again.

I was very impressed with the Current Notes publication which supports all Atari computers. It was printed on good quality paper, the layout was attractive without being flashy and the range of articles was wide. I particularly enjoyed the column by Dave Small (of Spectre and 68030 SST fame) in which he explained Heisenberg's Uncertainty Principle and how it related to computer design. Unfortunately, he wasn't able to attend the show.

Many stands stocked copies of the UK magazines (including, I was glad to see, ST Applications) which were selling well. Cover disks are not common on American magazines and getting a disk of software and a magazine for about the price of an American magazine was understandably attractive to the show goers.

This was the first American computer show that I have attended and I found it fascinating to chat to users from the other side of the Atlantic. All those attending the show were die-hard Atari enthusiasts (and let's face it, you need to be pretty dedicated to still be an ST user in this PC dominated era), using their computers for very specific tasks.

There can be no doubt that the Glendale Show was once again a success. The ratio of box shifters to developers was pleasantly low and there were plenty of new or updated products on display. Although the total attendance was down, those who came did so with their wallets and credit cards. The stall holders therefore left happy.

However, there was a definite air of trepidation among the developers. There was a real sense that this was the end of an era owing to Atari reducing its involvement in the personal computer market and returning to its roots, staking its continued existence on the success of a video games console. Where that leaves developers such as CodeHead and Gribnif who have built their success on application software is uncertain. Next year's show could have a very different feel to it.

Falcon Register

THREE MONTHS AGO I suggested setting up a database of Falcon owners to make up for the shortage of support. Two Falcon owners, Kevin Beardsworth and Colin Fisher-McAllum, wrote in and generously offered their time to organise such a service. I must also thank Roger Derry who offered his NameNet address manager software for storing the details.

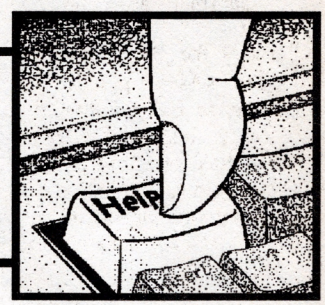
Falcon Fact File, as the register is to be known as, is now in full operation. To register, users should send in the membership form along with a floppy disk and a stamped addressed envelope. The disk will be sent back to them containing the database of Falcon owners and a demo version of NameNet to view it with. The rest of the disk will be full of useful PD software.

A membership form can be obtained by writing to Colin Fisher-McAllum at 11 Pound Meadow, The Green, Whitchurch, Hants RG28 7LG, or Kevin Beardsworth at 32 Chestnut Road, Fishtoft, Boston, Lincolnshire PE21 0BU, and enclosing a stamped addressed envelope. Please don't forget the SAEs as Falcon Fact File is a free-of-charge service and so there's no way that it can afford to pay for return postage.

Falcon Fact File is a great opportunity for Falcon owners to make contact with other users and I heartily recommend registering. If you have any queries then you can phone Kevin Beardsworth at (0205) 356867.

If you're a Falcon owner then you really ought to register. It costs nothing apart from a couple of stamps and at the very least you'll get out of it a disk of PD software. With any luck though you should make enough contacts to provide years of rewarding Falcon use.

FORUM



Protext

Cyril Maskery – Forum STA 33
David Gunby – Forum STA 34
Deborah Pate – Forum STA 34 & 35
Brian Elliott – Forum STA 34
J M Bowsher – Forum STA 35

A I send my grateful thanks to David Gunby, Deborah Pate and The Rev. Brian Elliott, also John Blackburn, for their ideas on my problem. Combining their solutions, I have developed the enclosed programme which meets all my needs (copy on DMG.38).

It has the merit that you can type the text on "TICKET" after deleting the old text, and adjust it to fit the space, without having to keep finding the part of programme to work on, if it was integral with a larger programme. In use, the programmes "TICKET" and "MASTKT" are loaded on the machine simultaneously, using ‹control›-"Y", so that both the text and the programme can be quickly accessed, should any problems develop.

The "PRINTER BELL CODE" and "TENTH TICKET" messages could have been done using repeat loops, but it was more obvious and easily done using the "Delete" and "Undo" keys to generate them. I also enclose a programme "FLASH" which could be used to emphasise the message by insertion in the appropriate place. You wouldn't miss the signal!

John Blackburn suggested the use of "MOD" to detect the 10th ticket. This feature is remarkably unexplained in the manual (and in the Protext 6.00 manual). I had tried to use it, but could not find the arrangement of the variables. This is:-‹list2›IF x MOD y=z ‹list2›which means Divide x by y and if the remainder (modulus) is equal to z it is true (ie ›IF is satisfied).

The use of "K." etc. as an incrementing variable caused me problems when used with "›AV" or if copied from a published programme; it is better to use the "›SV x=x+1" routine. The intended use for "K." is in automatically numbering paragraphs, where the other method would be cumbersome to organise when moving text about. It always treats "K." as a string, unless bullied into a numeric mode, which does not save lines in the programme.

Cyril Maskery

Imagecopy

D R Burridge – Forum STA 34
K L Yull – Forum STA 34
Richard Haseltine – Forum STA 35

Q Does anyone know if Imagecopy 2, or any other program, can do a CMYK without K (as opposed to CMY) print followed by a K pass (which would give the coloured inks a chance to dry), sort of 550C separated mode? I don't know if it does this already, but it would save expensive colour ink trying (and not doing it brilliantly) to look like cheaper black ink.

Jon Williams

- This feature will be added to Imagecopy 2.5, due early next year.

Q I am interested in Imagecopy. One of the ST magazines say it can print Colour from Mono printers. If this is so, can you explain how? Do you supply a different ribbon. My printer is Samsung 9-pin (Epson Fx).

Also, can you recommend a Printer Driver for my HyperPaint II? I want A4 and A5 size prints, etc.

J Walton

- You can print in colour with a mono printer using Red Green and Blue ribbons in your printer. (We don't supply the ribbons: for most popular printers they are available from larger computer supplies retailers, or try the pages of magazines such as Micro Computer Mart.) The picture is printed three times (or four with black) once with each ribbon. Imagecopy will also act as a printer driver for HyperPaint, and with Imagecopy 2 you can scale the picture.

New Word

John Stean – Forum STA 34
Huw Williams – Forum STA 35

A I used to use New Word with a 1MB STE (TOS 1.6) without problems, to the best of my recollection. I hadn't used it since upgrading to 2MB until John Stean's plea. When I did I had the same result: the ST booted as normal but reset at any attempt to use New Word or Word400.

Rebooting with the usual complement of auto programmes and accessories, I could install either programme successfully via Chameleon, and Word400 installed itself without problem from a booting ramdisk (Mortimer).

My copies of both programmes are packed using PFXPAK. I have found some accessories don't like being packed; some don't run at all, others, oddly, will only run from Chameleon. Perhaps someone like Jon Ellis could tell us why this is. I tried unpacking Word400 and copied it to a blank(ish) disk. It ran without problem. Then I tried the original disk: New Word and Word400 ran on that too! Very puzzling.

Alan Kennedy

The Forum pages are a regular feature of ST Applications, enabling readers to exchange ideas and help each other out with problems. Whilst we attempt to briefly answer questions here, if you have additional information or ideas please do submit them for publication. What you consider to be trivial information can often be of condiderable use to other readers!

Please send your letters on disk if possible. Disks will be returned with a PD of the writer's choice. Longer submissions may appear as articles, in which case you will receive payment at our standard page-rate.

Key:

The following codes are used for each Forum entry:

J Pringle – Forum STA 20: Author who first raised the subject, and in which issue.

Q Question

A Answer

I General information or 'Input', advice, discussion, hints and tips, etc., with or without reference to previous Forum pieces.

- Editorial reply

Registering Shareware

Sam Marshall – Forum STA 35

I Perhaps the ST Club could set up an Agency for selected popular German PD and Shareware, so that purchasers could register more easily. Joe Connor has bravely taken this on in the case of one program. Maybe the ST Club could handle half a dozen or so? Of course, I have no idea of the amount of work involved – perhaps the staff are busy enough already?

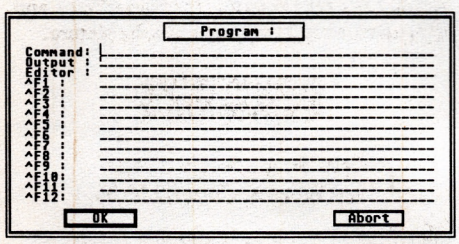
Paul L Cass

● We've looked at this many times. The major problem is that by the time we have covered our admin and postage costs, and the chancellor has got away with his 17.5% VAT, we end up with a commercially priced product. Matters are not helped by the very anti attitude many German Shareware authors have to PD Libraries. The bigger German libraries make very substantial profits.

KAOSDesk

John Stean – Forum STA 34

A The reason that the Printer does not work is that a driver program needs to be installed in the Program menu. Not only is one not provided, but at some stage the resources have been messed up and all the versions in circulation seem to be corrupt making it impossible to install all the possible programs: Printer, Editor, Command Line Interpreter and Function Key programs.



To get over this I have corrected various bugs in the KAOSDesk resources, dubbed it Version 2.02 to avoid confusion and written a general purpose port driver program which I'm putting in the public domain. The port driver allows files to be sent to all BIOS ports on all STs, the TT and the Falcon so is universally useful in its own right.

The only known bug in KAOSDesk is now that 'Confirm before: Overwrite' sometimes gets cleared and I have not been able to determine what causes this.

Graham Hinton

User Groups

I For all ST users in Dorset, the Bournemouth and Poole Atari User Group (BAPAUG) is alive and well. Meetings are held on the first Wednesday of each month (8pm) Pelhams Community Centre, Wimborne Road, Kinson, Bournemouth, Dorset.

P Godfrey

Long SCSI Cables

Paul C Forbes – Forum STA 34

A It sounds as if the problem of using two hard disks off one SCSI controller is not due to the length of the cables. A system I currently support, with over 30 SCSI peripherals and 10 SCSI busses, uses much longer cables reliably.

To work properly, an SCSI bus must be correctly terminated at each end. (This is to do with transmission line theory.) In other words, the number of terminators must be exactly two. One termination is normally provided by the host computer or its SCSI adaptor; the other by the last device or controller in the chain.

Most SCSI peripherals are supplied with termination resistors fitted. (Some sadistic manufacturers solder these in place, but most are removable.) If more than one peripheral is connected to an SCSI bus, it is vitally important to remove the termination resistors from all but the last device in the chain. A SCSI bus might work intermittently with an extra terminator, but is unlikely to be reliable.

Also, an SCSI bus should be just that: a single bus. The cable should go from the host computer or controller to the first device, then from there onto the second device etc. Never connect it as a star, with all devices linked back to the host. Stubs (cables off the main bus to peripherals) should be avoided, or kept as short as possible.

Chris Isbell

PC vs Atari

Wendy Durham – Forum STA 24
Alan Kennedy – Forum STA 24
Stephen Murgan – Forum STA 24
Gordon Carruthers – Forum STA 26
Dave Ansell – Forum STA 30
Alwyn Thomas – Forum STA 31
Bob Osola – Forum STA 31
K S Grings – Forum STA 31
Graham Curtis – Forum STA 32

I I did not say that it was a case of PC v Atari in STA 30. A more appropriate heading would have been Marketing v Marketing.

People seem to have been putting words in my mouth. My letter was split into 2 issues, part of it was put under the heading of PC v Atari and the stuff about further to my letter was an invention of the editor. I suppose I can't really complain about the editing because I should have realized that it would be split up. I should have specified a heading.

Bob Osola's reply about a fat Windows elephant perching on a Dos traffic cone may lead people to believe that I used those words but I didn't. He goes on to say that PC software support is extremely good as if he is arguing with me about this. In fact I gave this as one of the main reasons why PCs dominate. Although there is not very much, there is some superb low cost software available for the ST and more on the way for the Falcon, especially German software. It won't dominate the computer market no matter how good it is but at least it gives people more choice. Another reason I gave was confidence. The relative confidence in PCs is boosted by the fact that there is a large number of companies which make them.

He mentions his 25MHz 486 alongside his ST. However, consider the fact that GEM runs adequately on a bottom of the range 68K processor but a 386 upwards is needed for Windows.

He is right to imply that it is the complete system that matters to end users but that wasn't what I was discussing. I was discussing how the 86 series and the 68K series processors came to be in the position that they are in.

In STA31 Alwyn Thomas implies that I said that instructions on different processors were equal when I specifically said that they were not.

He talks of MIPS ratings provided by computer manufacturers but they were not. They were provided by processor manufacturers to indicate the best that can be achieved. The choice of software used to produce these averages can be biased by each manufacturer. It is up to users to decide whether the bias on each side cancels out and to demand details of how the results were produced. These MIPS are most relevant in comparisons such as 68K and 68060 etc.

What is actually achieved depends on the design of the rest of the system, which is a juggling act between cost, performance, reliability, component availability and time to market. The resulting price and performance depend on the ingenuity of the designers, the manufacturing efficiency and the circumstances at the time.

There have been hundreds of slow PC designs which have simply disappeared. There are numerous companies involved so lots of them will produce efficient designs. There is only one company designing Ataris; it seems to give priority to component cost but it doesn't seem to do too well on manufacturing costs.

When I spoke of MIPS I was talking about processors not systems. I did not mention any other benchmarks because they are even more controversial, especially as they depend on specific hardware designs and whose compiler is being used and how well the programmer wrote the code.

Alwyn Thomas also made the totally incorrect assertion that the extra 68030 addressing modes slow it down.

The truth is that the original instructions take fewer clock cycles to execute than on a 68K and their execution can overlap such that the next instruction can begin while the previous one is finishing.

There are even some combinations of instructions and cache hits that result in zero execution time of an instruction.

Consider 3 instructions – call them A, B and C, where B and C are in the on-chip

instruction cache.

While instruction A is using the system bus to write its result to memory, instruction B can be read from the cache and begin execution. In the situation where instruction B operands are available from processor registers or the on chip data cache, then B does not require the system bus for operands and does not have to wait for result A to be written to memory.

When A finishes, B is already partly done and C can begin provided that the operand fetch for C does not get in the way of the writing of result B. If there is no gap between A and C then the execution time for B counts as zero.

How frequently complete or partial overlap happens depends on the instruction sequence and the cache hits. So even though on the 68030 most instructions take more than 3 clock cycles (and some a lot more), the average number of clock cycles per instruction is claimed to be 2.5.

The speed will be degraded by slow memories requiring the processor to wait for 1 or more clock cycles on every single bus cycle and by reduced bus widths and shared buses. Larger caches and more parallelism, such as on the 68040, do help and result in a claimed average speed of 1.25 clock cycles per instruction.

The 68030 has got 256 byte instruction and data caches, the 68040 has got 4K byte instruction and data caches, the 68060 has got 8K byte instruction and data caches.

The extra addressing modes and instructions DO NOT slow the original ones down but they do require more area of silicon and therefore increase the cost of the chip.

With the new instructions and addressing modes, new and faster algorithms become practical but this will be hidden from the high level language programmer. However, individual high level language instructions can be compiled to take some advantage of the extra facilities but it depends on the compiler writer, for example, improved speed random access to arrays. High level languages are not very good at random access compared to their timing for sequential access.

Not many compiler writers use the new instructions and addressing modes because they want the compiled code to run on any 68K series processor; it takes extra effort to modify existing compilers to use the new stuff and they prefer to stick to what they are familiar with. When they do use them and provide compiler options for target processors, they rarely completely rethink their data structures and algorithms to get the best out of the new facilities. If they started from scratch then they would probably produce a very different implementation.

The main point of what I said in STA 30 was that people falsely assume that the best technology always wins. In fact, it doesn't matter how good the technology is if the marketing isn't good. This may be obvious but people have a limitless capacity to ignore the obvious.

The most important event in the marketing of the 86 series was getting the 8088 designed into the original PC. So it's marketing v marketing and blunder v blunder that matters.

Reading Forum, some people might think that this computer was the only one that ever had any bugs or blunders. The PC market long ago reached the stage that it is almost immune to bugs and blunders and will stay on top until there is such a massive improvement in technology that it makes it worthwhile for people to change to something else.

I certainly agree with what Günter Minnerup said in the right hand column of page 38 of STA 31. When change eventually comes, the innovation will have to be big to avoid being stifled. A new standard will eventually emerge and strap the market into a new straightjacket.

Dave Ansell

Pamphlet Mode

Iain Carr – Forum STA 34

Q Still trying to get to grips with my HP DeskJet! I have been totally unsuccessful in trying to get either BOOKER.PRG or HPESK2E.PRG on PTR.16 to print out in landscape/pamphlet mode. All that happens is I get text printed in small font halfway across the page in portrait style and subsequently missing half of each line.

Could someone please tell me what I'm doing wrong? Do I need to set landscape mode on my DJ – and if so how? My DJ is just a plain vanilla DJ. Not even a 500. I've even added the 66 returns to a file as advocated in Applications issue 34 to no avail.

On another subject, do you operate (or would you consider operating) a 'disk return' service? I recently spring cleaned my disk collection, finally getting rid of all those programs collected over the years that I always thought I might need someday, but of course never have, as like many people (I guess) I only use half a dozen programs with any regularity. The result is approximately 100 reformatted blank disks. This is far more than I will need to keep me going. Is it feasible to send blank disks with my PD order for you to fill, or would this compromise the quality of the service you offer? Surely someone must have a need for a disk 'bank'.

Simon Hiscocks

● Sounds as if the programs in question do not support your original model (not even Plus?) DeskJet.

Old disks we have aplenty – so much so that we are selling them off at 30p each (see page 56). Accepting customers disks for PD orders is not feasible as we have the PD and Shareware disks pre-copied ready to send out – the only sensible way to achieve same-day despatch on orders. We're unlikely to find floppy disk recycling bins in supermarket car parks, but there is probably some mileage in a Blue Peter style scheme that gets old floppies to good causes. Maybe your local Friends of the Earth group would be interested?

HP Prices

I I am now the proud owner of a Hewlett Packard DeskJet 500C. This was not my original plan for upgrade from my LC24-10. I first considered a Canon BJ10e\sx. Several letters, reviews and articles (mainly in STA!) explaining the sturdiness, non-waterproof ink and extra cost of sheet feeder led me to save a bit more for a DJ500\510. I always thought colour was out of my range and had heard of HP Chrome, Imagecopy 2 and colour kits for mono printers.

Well, I thought it time to check out mail order prices so I bought a couple of £1.50 PC 'Shopping' magazines – 550 pages of adverts, 50 pages of editorial, and a free disk. There was even (shock..horror) an Atari column almost as big as the Amiga one!

What I found was DJ510's at between £200–£245 plus VAT and DJ500C's between £235–£370 plus VAT (all DJ550C'S above £400 plus VAT). So for £35 plus VAT extra I went colour!

Anyone considering a mono Deskjet should make the most of this sillyness and 'upgrade' to colour for just £10 more than the price of the included colour ink cartridge!

Jon Williams

Food Dyes

A In Forum (STA 25) John Ridge suggested that food colours may make an ideal job of refilling DeskJet cartridges. I've tried it, so far only with Supercook Blue, and this is printed in it – cost about 15p per refill! The only possible drawback discovered to date is that it is not waterproof. It would be interesting to know how closely Supercook Blue, Red and Yellow approximate Cyan, Magenta and Yellow.

Keith Berry

Teradesk

Q One of the unsung benefits of replacement desktops is their improved ttp parameter boxes. Neodesk, Gemini, Kaosdesk and Teradesk all have a longer command line to allow more parameters (and make more errors in). All but Kaosdesk have a moveable box so you can see the file name you want to type in. Best of all, all but Gemini – which has a complete command line interface anyway, remember your last command line and allow it to be edited so that you can carry out repeat operations or correct your errors. Using LHarc is almost enjoyable!

However Teradesk does have some peculiarities in this area. In the GEM ttp box, 'A:\' means the root directory of A, and 'A:' usually means the current directory of A – the one shown in an open but not necessarily active window. I am not sure what happens if more than one window on the A drive is open.

Thus with LHarc the command:
a /r arc a:*.* or, perversely, a /r arc a:

archives all files on drive A: and
a /r arc a:*.*
archives the files in an open but not necessarily active window of drive A:. If A:\AUTO is open but not active and LHarc is run from another drive, say C:, this command archives only files in the folder A:\AUTO.

With TERADESK this command archives all files on A: like :*.*. Kevin Preece's XDIR (see below) behaves similarly: clearly TERADESK has different rules for path specifications. With Teradesk, A: reads the current directory only if its window is active. In this case typing A: is unnecessary. To achieve the same result as the GEM desktop, LHarc must be dragged to the desktop and run as an icon. Then:
a /r D:arc A:*.*
will archive files in the open and active directory of A:. The path for the archive has to be given if you don't want it to be in the current directory.

When XDIR.TTP is run from the Gem desktop,
A: >(>)"file"
reads the entire directory of A: and writes (appends) it to a file. With TERADESK redirection to file or PRT: etc does not work, but the similar programme DIR.TTP (and LHarc.TTP) accept redirection quite happily with Teradesk.

I don't necessarily want the overhead of running an alternative desktop, nice though they are; I would like a replacement ttp parameters box, rather like a replacement file selector, which would offer similar facilities to those described above and a few more I can think of, such as being able to call the file selector from the command line and being able to et default command lines for particular programmes. Does any one know of such a programme? How would you set about writing one - there is presumably a routine in ROM which you would have to intercept.

Alan Kennedy

Proxima

Salvatore Marigliano - Forum STA 14
Chris Korycinski - Forum STA 33

Q Does the PageStream support disc, WPR.118, have any upto date printer drivers on it, and would they work with Proxima?

David J Lindsay

● Proxima is a slightly hacked version of PageStream 1.5x that was (sort of) marketed in the UK by Network News. PageStream 2.x drivers will not work with Proxima.

Q Thank you for despatching my latest order promptly as ever. I have encountered a problem with the upgrade files for PageStream. All goes well until I ask the ZAP program to create PageStream 2.2; it then gives me the following error message: This file is too big! Yikes!

Can you say what the difficulty is?

● Whoops. The PageStream upgrade files on disk WPR.118 only upgrades the US version of PageStream. The simplest way of getting an upgrade to version 2.2 is to contact the new UK office for SoftLogik on 0628-784006.

Atari Introduction to Word Processing

Cyril Maskery - Forum STA 33

A Cyril Maskery complains about the printing speed in the Atari Introduction to Word Processing package. The software is Calligrapher Lite and is extremely good value in my opinion. To improve printing speed use 'Text Only Mode' from the 'Format' menu. This works well and fast but only uses the printer's font as opposed to the GDOS fonts in 'Graphic Text Mode'. If you know the printer's codes use 'Set Text Printer' to make the printer carry out text features such as bold or underline. It is all in the excellent manual.

John Megson

Dream Machine

Q Would you be interested in a contribution outlining an ideal (but, one hopes, practical) computer to be built by Atari? This would be a proposal by a layman based on a home-user's experience.

H J Lewis

● Don't encourage them. We'll settle for delivery of products already designed and ready for manufacture.

Quicker STE Boot

Q Why is it necessary to wait about seven seconds each time you boot just after the reading of the bootsector?

On ST's (TOS 1.04 or older) there is no such pause in the boot process. Has anybody made a bootsector program patching the STE TOS in order to make it boot as quickly as a TOS 1.04? It's a small detail, but I boot at least one thousand times a year. This makes 7000 seconds wasted, or about two hours. Now multiply this by the number of experimenting STE users throughout the world.

Paul Dion

Clocks

I I have just upgraded from floppy disks to a Data Pulse Plus hard disk from Ladbrokes. They now use The Link and, unfortunately, their drives no longer contain a clock. This means that I will have to spend extra to purchase a separate Forget Me Clock which will stick out from the side of the computer instead of being internal. I did not know until the drive arrived that they had made this change. It is very disappointing as I was looking forward to not having to set the clock each time I switched on. Apart from that, it is a pleasure to use and so quiet. I see that the Forget-Me-Clock manufacturer, Marpet, is charging £21.99 for it; Gasteiner (who will have to make a profit) is selling it for £14.95; and in the copy of the catalogue which I have, Paul Rossiter is selling it for £16.50. Marketing is rather queer, isn't it!

Keith Powell

Hard Drives and TOS

Q I have an Upgraded STFM with 2.5MB and a DS disc drive. I am now contemplating buying a Hard Drive. I have noted several comments in recent articles to the effect that hard drives and early TOS (1.02 or 1.2) don't mix.
1. Is this true?
2. If so, what is the problem?
3. What is my best course of action? Do I upgrade the TOS? If so, to which level, and should I get a switched version? Do I upgrade my machine completely - STE or Falcon?

Also, have you any recommendations to make regarding hard drives: makes and connections?

Steve Amos

● There is no incompatibility between TOS 1.2 and hard drives; but upgrade to TOS 1.4 and you'll experience a four-fold increase in hard drive access speeds. The code that handled hard drive access was incredibly inefficient in the early versions of TOS. TOS 1.4 will do the job happily and cheaply, TOS 2.06 with the switcher/adaptor gives the same speed advantage and a prettier and more capable desktop. See Paul Rossiter's recent review (STA 31) for a run down on the pros and cons of a TOS 2.06 upgrade.

There is no need to upgrade the machine, but it would be wise to look at putting the cost of a hard drive (£300?) towards the cost of a new Falcon030 with internal 65MB hard drive.

Hard drives are much of a muchness. Two companies make host adaptors (GE Soft and ICD), and the companies offering complete hard drives are usually sourcing cases, power supplies and drives from the same range of sources. It is well worth making the effort to see and hear the drive before purchase.

Shopping List

Q I just thought I would write a letter for the Forum pages that might get a little discussion/argument going and help me to make a decision!

I purchased my first computer, a Dragon 32, in 1983 and slowly upgraded it to disk drives, modem, extra memory etc. When my interest in music and DTP started to take off, as there was no simple Midi availability for the Dragon and no compatible machine to upgrade to, the 68000 based ST seemed the

logical alternative. However, I had to bin all of the software and start again. The ST was a great leap forward for me and a delight to use, but, as they say things move on. Now I am seeking the advice of ST Applications readers as to where I go from here.

Believe it or not, I still have an old fully functioning STM machine (no internal floppy) which has a large external power supply resembling a black brick.

I bought this back in 1986. At the time, the STFM was having trouble with overheating internal floppies and I was advised by my old friend Tom Goodfellow (who ran the BBSO9 bulletin board) that the STM machine, with a mono monitor and a 1 meg external drive drawing power from the joystick port, would be a better buy.

Sadly, Tom is no longer with us and so I am unable to get his expert advice again. Anyway, I bought this machine, together with a SM125 mono monitor from AS&T of Southend for the princely sum of £275. I have upgraded it to 2.5MB and have added a proper externally powered Cumana double disk drive (5.25" and 3.5") and very recently a Forget-me-Clock II clock cartridge. A Star LC10 printer completes the outfit (apart from the software of course). No other wizz bang things at all.

Now to my problem: where do I go from here? What do other readers consider the best way to go for my machine, I mean by way of upgrade, peripherals etc? I have looked longingly at Hard Disc drives, new versions of TOS, accelerator boards, tower systems etc., etc., but what one or two things will breathe new life into my machine? The poor old thing is showing its age but has been exceedingly reliable and faithful! It still manages to perform my word processing tasks, playing with Midi, the occasional bit of DTP and with the odd game or two, does most of the things I want. I just feel that things are getting a bit tired and I want to reward it with something that will give it a new lease of life.

Obviously, like most people at this time, I don't have a lot of spare cash (and I have other priorities - like a family!) so buying a Falcon at this time is out of the question. I need to prioritise what I want to get in descending order of benefit to the system. This way I can buy the thing most useful first, and work my way down the list as finances become available. So what do readers consider is the most useful or beneficial piece of kit to buy? What did they buy that had the most beneficial effect on their system? Please let me know what you think. Where do I go from here?

Gary Coxhead

ST Applications

I see that some readers want beginners' articles. I thought I was the only beginner left. However, on this disc I am including Routines.Asc, a small selection of procedures which I often use in my programmes (see DMG.38). Beginners may find these inspirational, and any Basic will do. It might be a good idea to produce a whole disc of routines in any Basic or other easy language. Beginners want to know how it is done, not just have an assembler do-da which does it.

Max Wirth

I assume from the reader questionare that the ST Club is unsure of the direction ST Applications should follow. May I add my two penn'orth?

As a non-technical reader, I have to say that some of the content is over my head. But that doesn't mean it shouldn't be there. It is the technical discussion which attracts the people who write the software we buy, and who supply the hints on how to get the best from software and machines. The DTP series is interesting, Piper is both amusing and informative, and the letters section is good. I am sad to see the Falcon gradually squeezing the ST out, but I suppose this is inevitable. I shall not be buying a Falcon, and feel that the only sensible path would be to buy a PC.

I won't be doing that for a long time, either. My ST suits me fine right now, giving me access to wordprocessing, DTP, and graphics work. And that is about the only use I have for a computer. I enjoy flight sims, but most games are tedious after a few minutes. I don't think ST Applications need look at games, as these are well catered for in the High Street magazines. (While they last!) Rather than worry about colour, I would prefer to see more editions, if the increase in cost was the same. But would you find sufficient copy for this? Like many people, I like to write, but I have insufficient knowledge for more than the odd letter. While it is important to cater for beginners, we don't want to see pages filled up with information on how to copy files, etc.

Paul L Cass

● Full résumé of the Reader Survey and associated feedback due in next month's ST Applications.

A suggestion: would it be possible to have similar articles to the current DTP series which are program specific, i.e. Calamus, etc.? A seasoned user could pass on valuable and time saving information to the novice, especially if step by step instructions were included for a particular task - say an advert or tickets for an event. Experience comes quicker by listening to someone who's done it all before!

S Arnold

ST Applications is still my best investment after the st itself and am glad you have started more details/coverage of the Falcon as a personal equipment upgrade is now becoming pressing. As I have a retired engineer's interest in CAD at the affordable end of the price range, how about some coverage of the cheaper plateau (say up to A3) since information is generally sparce compared to that on printers.

P R Evans

On page 6, in the Falcon News from Piper, in the last paragraph it states "...since Atari have decided not to let them [VGA monitors] display True Colour...". This is incorrect; the Falcon can display True Color (pardon my American spelling) on a VGA monitor, but only at a 320-pixel horizontal resolution. Atari did this because moving a complete 640x480x64K screen to the monitor involves moving 600K of data fifty or sixty times per second. That works out to be thirty megabytes in one second. This would slow the CPU down so much as to be unusable. It is possible to use 640x400x64K on a television or Atari color monitor, but these are interlaced modes, so only half of the screen is actually being displayed at any one time. While trying to get View II to work on the Falcon, I tested it with both a VGA monitor and a regular color monitor, so I know True Color works with VGA.

Also in your Forum pages, Peter Jury states that direct-to-disk recording of CD Audio would use 1.4 megabytes per second. This is incorrect by almost an order of magnitude! The actual value is 44100 or so samples, multiplied by two bytes per sample, multiplied by two tracks (left and right). This gives an actual space consumption of about 176K per second. His number of 10M per minute, though, is correct.

This probably sounds like nit-picking, and in a way, it is. But that just goes to show you how great ST Applications is - the only thing I can find wrong with it are dinky little things!

Damien M Jones

Games Menu

Q I have lots of PD games and I wanted to know if there is a program to compress these games, to get more than one on a disk, and have the name of each game on the screen at the start, and then have a number next to each game. Example:

F1 Game 1 *******

F2 Game 2 *******

I hope this makes sense. I know it is possible as I have one such disk with a fancy screen which comes up after boot up with five different games on. To select the chosen game all I have to do is press any number from 1-5. I hope you can help with an easy-to-use program.

One more quick one: is there a speech synthesizer available to read text, better than the standard ST Speech?

C Kitchen

● Program packers are on disks UTI.232 and 233; disk UTI.276 contains a number of programs that will allow you to run programs from a simple menu. Matters get a bit more complicated where games must be auto-booted. Maybe Superboot (UTI.277)?

SuperBoot

Q If Superboot is bypassed at set up by pressing a hot key (or not depending on the configuration), then the date and time setting function is also bypassed. This would not be

too bad except that any other utility for the same purpose is also disabled - it appears that Superboot always sets the system clock with the last date it thought of. Does anyone know a way round this, apart from installing another auto programme to run before Superboot?

I get the impression that Superboot sometimes writes to Desktop.Inf; my attempts to install Teradesk as an application fail - I save a Desktop.Inf with the necessary line in it, then after rebooting it has disappeared. On one occasion when I attempted a reset in the course of booting-up, I ended up with an empty Desktop.Inf and no icons.

Alan Kennedy

Apple Emulator

Q Our house has been thrown into turmoil by my wife deciding to invest in an Apple Mac LCIII. To date we have both used Atari's but she felt that the time was coming when she would need to communicate with her colleagues - articles and DTP, on disk and they all use Macs! Comparison with Falcon aside, I can see the sense in what she has done.

I want to improve the marketability of my artistic efforts to the publishing world and realise that Macs are widely used. I have enrolled for some tuition at a local college and lo! more Macs!

So - my problem. I want to know how effective Mac emulation is. Ihave looked in various magazines of late and can see no mention of a Mac emulator for sale. My aim would be to use my Atari to do most of the computer graphic work but in order to pass it on to others on disk, I would have to do it with Mac software.

Is there anyone out there who has used a Mac emulator with an Atari, and if so, does it work? What was/is it called, and if it is not currently available what chances are there of getting a usable version second hand? (We are on to version 7 of the Mac operating system now, remember.)

The alternative is spending another £1000 on a second Mac, and so help, advice - even a working emulator - will be welcome!

Frank Ayton

Q I am trying to locate any information about the Mac emulator Spectre GCR which I run on an STE with 4MB of RAM. It was produced by Gadgets by Small. Does anybody handle this - I bought it from HiSoft who no longer deal with it.

David Larcher

● The Spectre Gcr Macintosh emulator works very well - see Günter Minnerup's regular songs of praise to it in the emulation pages of most issues of Atari ST User. Gadgets by Small, the US designer and manufacturer of Spectre Gcr, are still up and running, but they have never had a sole UK distributor which means that support in the UK has always been erratic. Gadgets are working on a Falcon version of Gcr that will support System 7.

Apple are on the verge of again cutting the prices of their entry level machines, but if you are happy with the ST software you have then do you really need a Mac? So long as you can save your work in, say, TIFF or PostScript on the ST then a Mac should be able to read these files from a (PC compatible) ST disk.

Roman to Arabic

A I seem to recall someone asking for a program to convert Arabic to Roman numerals. The following Power Basic listing does the job. I found the algorithm in a French magazine, sent in by J D Arnau in GFA Basic, which I converted and enlarged.

```
? "Convert number to Roman Numerals"
`From a program in GFA Basic
? "by J D Arnau"
`Printed in ST MAGAZINE No39 Avril 1990
defint a-z
do
while a>3999 or a<1
?
? "To end, enter 0, otherwise"
input "enter number between 1 and 3999 ";a
if a=0 then exit loop
else ? a"in Roman numerals is ";
wend
for n=1 to 4
y=10^(4-n)
x=a\y
a=a-x*y
while x
decr x
y=x\4
x=x-4*y-2*(x=3)
? mid$("IVIXLXCDCM",1+y+3*(4-n),1-(y=2));
wend
next n
loop
stop-1
```

John Megson

Hawk to PageMaker

Q Help please! I have a Hawk CP 14 flat bed scanner and want to export images via Windows 3.01 to Aldus Pagemaker. Is this possible with Imagecopy 2? What should I do? It's lonely out here. Thanks guys - you keep me going. Pagemaker imports .TIF, .PNT, .PCX.

David Frontin

● Imagecopy 2 will take an IMG file and save it in TIFF format: this should do the job.

Word Plus to ASCII

Q We are a small educational charity who use Ataris for our work with First Word Plus (3.2 version) for word processing. Occasionally we need to transfer word processed articles to colleagues who use either PCs or Apple Macs. When we save into ASCII the program adds carriage returns at the end of each line (as do some PC wordprocessing programs). This makes transfers a nightmare. I have been told that it only needs a simple programme to remove these carriage returns before transfer or before we try and use an ASCII file on the ST. Does anyone know of such a PD or Shareware program or can anyone write one for us?

Anne Strachan
Development Education Project

● Ajax (WPD*18) will convert First Word format files into ASCII format.

Atari in Education

I Our school Art Department has just got a Falcon, Epson 6000 scanner and a DeskJet 500C - which Crown Computers are selling off for about £240. They are getting brilliant prints from it using Imagecopy 2. A genlock and digitiser are on order from Titan Designs.

Do you know of any good programs for editing the scanned images and also for animation on the Falcon? This is a popular activity with the Art department and they mainly use Cyber Paint. This year one of their 'A' level students did all his coursework and his final exam on the ST using Cyber Paint. He produced several animations and the examiner from the examinations board arrived and gave him a B grade. On that basis several of the animations produced for GCSE exams should easily achieve an A grade at 'A' level!

David Waller

● PixArt (ST Club) and TruePaint (HiSoft) will both edit scans on the Falcon. TruePaint also has an animation facility, and there are numerous all-singing, all-dancing animation packages in development for the Falcon.

Cross Developing

Q I wish to develop code in the ST and download it to another 68000 based target system (not an ST). I can develop code using the Prospero or similar C compiler and the normal way of downloading to a target system is to use Motorola S file format. Is there a program somewhere that will convert a machine code file into S-format which can be downloaded using Uniterm or something similar?

J J Langford

Comments on MultiTOS

I I have tried it out on my 4mb STE with Adspeed STE and it clearly looks to have potential. I have just loaded twelve desk accessories simultaneously (a fairly pointless exercise I know, but it looks like Multidesk is obsolete). The speed penalty is noticeable, although Adspeed at 16mhz runs MultiTOS at a subjective equivalent speed to an 8mhz ST with normal TOS. The addition of NVDI makes it pretty usable. There are some

problems however:
1. I cannot get Cubase 3.01 to run at all - can anyone shed some light on this? I was disappointed that Atari ST Review's review of MultiTOS did not even comment on this apparent problem even though the reviewer and the editor are both noted Cubase experts.
2. Can anyone get UIS III to run? All I get is the Atari file selector.
3. Autorais can cause some problems on a crowded desktop as it can cause unintentional task switching if you move the mouse too slowly. Time for a large monitor I think! On a big screen Autorais and MultiTOS would be brilliant.
4. The manual is rubbish (I am not willing to put the blame on HiSoft for this). It warns against changing the GEM.CNF and MINT.CNF files yet MultiTOS is all but unusable without editing these files.

MultiTOS really ought to have a menu or key stroke shortcut to allow tiling and stacking of open windows à la Windows 3.1. I suppose that will have to wait for some sort of standardisation of Atari applications. I am not going to hold my breath.

So what do we need from MultiTOS-friendly applications, especially MIDI ones?

* Standardised key stroke shortcuts;
* Tiling and stacking windows;
* A standardised hypertext online help system for MultiTOS and applications;
* An equivalent to the System 7 Publish and Subscribe or Windows OLE supported by all packages including MIDI; and
* A reliable subroutine for multitasking all MIDI programs similar to the Apple MIDI Manager. I do not suppose Steinberg or Emagic or Dr. T will give up their proprietary systems easily. One thing is for sure, if they do not provide full support inside twelve months for MultiTOS it will substantiate the increasingly widely held view that even in the field of music and MIDI Atari are being left behind.

Andrew S Good

● UIS III should install OK if run from the Desktop or set up as an Autobooting application.

Soaraway Falcon

Douglas Orlowski - Forum STA 32
Chris Isbell - Forum STA 33

In STA33 Chris Isbell compares the Apple LCII with the Falcon and asks the question 'which computer would you choose?' - personally, I chose the Falcon for the following reasons:

Power

The Falcon is undoubtedly a more powerful computer with 16-bit colour, CD quality sound, blitter, 32-bit bus and the inclusion of the DSP chip (unprecedented in a home computer). The LCII cannot compete with a Falcon in their 'out of the box' configurations.

Value for Money

Mr Isbell implies that the second serial port on the LCII somehow balances the DSP, midi and bi-directional parallel ports of the Falcon and makes the point that the LCII price includes a monitor. I suggest that adding those ports to the Apple would cost significantly more than a good SVGA monitor.

Downward Compatibility of Hardware

The ability to use Atari High-Res and Philips monitors is a big plus. I am still delighted by the clarity of display on my SM125 and the quality of true-colour, overscanned pictures on a Philips 8833 has to be seen to be believed! I would also like to continue using my Deskjet 500 - I find it hard to believe that an industry standard printer cannot simply be plugged into an Apple without the addition of an expensive interface.

ST Software Compatibility

I have purchased some excellent software over the years I have had an ST, much of which runs (very well) on my Falcon. I would not want to dispense with Calligrapher Gold, Highspeed Pascal, Adimens DB, GFA Basic and many other excellent programs. Software for the ST/Falcon also offers unbelievable value for money. For example, I have recently purchased Lattice C at £50, Midistudio Master at £20 and Imagecopy2 at £20. I wonder if the LCII could offer three similar top class applications for less than £90 brand new?

Satisfaction with my ST

I thoroughly enjoyed my ST for over six years. I started with a 520STFM and gradually added monitors, hard drives and memory as I could afford it. It has been in almost daily use for a wide variety of applications and it has never once broken down. I have no reason to believe my Falcon will be any different.

Mr Isbell concludes his case for LCII by telling us that Apple are one of the largest personal computer manufacturers in the world whilst Atari are 'nowhere'. Perhaps he has not read recently about the quarter-year loss of $188 million posted by Apple or the fact that they are laying off 17% of their workforce. If the price-slashing tactics Apple are using at present fail to arrest their declining market share (and there are signs already that the surge in Mac sales is stalling), or if they fail to create a market for their £800 PDA then Apple may arrive 'nowhere' a lot faster than Atari.

To conclude, if you want the best home computer then buy a Falcon, if you want the best business computer then buy a PC486. In my opinion Apple are second best in both sectors and now that their prices have dropped and they can be bought at Dixons, they do not even command 'snob value' any more. The ST was better than the Mac Classic in its day and the Falcon is better than the LCII now.

The Lesser Spotted ST - Spotted!

Readers of my last contribution to Forum will remember that I stated that Atari had missed out on selling (dumping!) the re-launched STFM via the home shopping catalogues such as Kays and GUS. Well, guess what I spotted in the latest Argos catalogue? Yes, a brace of STs! Admittedly the machines were only being used for display purposes, but at least that's a start. All Atari have to do now is run along to Argos head office, give them a good deal on the STFM, and Bob's your uncle, Atari is back in the high street shops at a low price. Mum and Dad will happily pay out £125-150 on a 'real' computer, which can do a lot more than the SEGA and Nintendo game machines. The software is cheaper as well, and you have a good base to start again with!

Sound's simple doesn't it, but why haven't Atari done it? I don't know why. If I was a marketing man I would have been looking for these sort of opportunities. Atari need to get rid of a large number of STFMs, and any business man will tell you that it is better, in the current climate, to take a small profit on a lot of machines than a big profit on a few machines. Atari could even possibly afford to make no profit on these STFMs, in the hope that a new user base will be established, who in time will upgrade to a Falcon or whatever.

On now to an even lesser spotted bird, the Falcon. I still have to actually see one in the flesh. It appears that no-one in Sheffield sells them. I drew this conclusion from a recent call around the various computer dealers in the city. The first two I tried said they only sold business computers (PCs!). So next I tried a general computer dealer, who said he had read about the Falcon, but didn't have any in stock and wasn't planning to get any. Finally I tried a dedicated games computer dealer, who burst out laughing when I mentioned what I was calling about! The reason for his laughter was the mention of the word Atari, but being quick on the draw, offered me the chance to buy an Amiga 1200 with all the bits and bobs at a very nice price, with the added selling point that the Amiga was in stock, and that I could walk out of the door with it!

It is very galling to actually have to go cap in hand to an Amiga dealer, in the hope that they might actually have a Falcon, so come on, Atari, can you tell me if there is any shop in Sheffield actually selling YOUR product? I have tried to call you, but just get a permanently engaged line or when it rings, no-one answers!

By the way Atari, your advertising sucks! Your eye, ear, hand and mouth adverts are more likely to be of use in directing people to the correct ward in an NHS Trust hospital, than in selling the Falcon! And why on earth place glossy adverts in ST enthusiast magazines? We know all about the machine, so you would be far better off putting a more coherent advert in PC World or in Radio Times or in Satellite TV Europe, which reminds me - the latter magazine is actually offering STEs as competition prizes in their

September issue, and stressing the fact that the ST(E) is a 'proper' computer (Hurrah!). But, getting back to the advertising of the Falcon, Atari, you must target your adverts at new users, not existing ones. We existing users will buy a Falcon eventually, when we have the money (and can actually buy one!), so don't waste your pitiful advertising budget on pointless adverts!

Moving on now to other things, such as SpeedoGDOS. I haven't yet got around to buying a copy of this, even though I suppose I should! Part of my reluctance to buy a copy, not only in the finding the £40 of beer vouchers to start with, is the worry that no new programmes will support it. Every major ST DTP/professional graphic program seems to be heading off into the PostScript world, which is fair enough. Even though SpeedoGDOS is backwardly compatible with most programs using GDOS, I want to look to the future. With this in mind, I have yet to see any mention of a new DTP program using SpeedoGDOS which will allow users to do the sort of things Calamus and PageStream users can do with ease. So, is there a new DTP program being developed which will use SpeedoGDOS and will it be available soon? (Remember folks, the mention of a potential DTP program being developed in the Fontkit Plus manual ages ago!!!) I await further news or comments with great interest!

Finally, this time around anyway, mention of User Groups in issue 34 prompts me to ask if there are any serious ST users in my area? (Sheffield/North Notts/N.Derbyshire) If there are, and you want to meet up for a drink and a chat every now and then, then give me a call on 0742 618940 between 10am - 7pm Monday to Saturday.

More next time, unless Bob sends a hit squad to get me in the meantime!

Mike Kerslake

PD Feedback

I'm passing on recent experiences with PD discs in the hope of helping and sometimes warning others and also getting some help for my remaining problems. There is also an unrelated problem which I've noticed of late which I'll mention first.

When I invoke a program, sometimes unwanted characters appear. For example, entering an editor (Hisoft's Genst2 or MicroEMACS) occasionally three or four characters appear - different characters on different occasions. Also when using the shell for TeX, exit from the editor back into the shell causes some other program to be activated. Not always and not always the same program. Obviously, spurious characters are invoking shell commands. So far this has simply annoyance value but I have the feeling that someday... Help please.

I obtained MicroEMACS v3.10 on WPD*30. The program works fine and can be thoroughly recommended as a customizable, cheap editor. The source comes on WPR.40 and is suitable for PC's, VAX's etc. as well as Atari's. To compile for the Atari, there is an assumption that the compiler will be Mark Williams or Lattice C: in particular that their Line A bindings will be available. I use Sozobon by choice, which has no Line A bindings, and GNU C when things get difficult, and their Line A bindings use different names from what is expected. As a result, I've had to cobble together some bindings which work. People are welcome to a copy if they want, but it should be stressed that these are just for MicroEMACS.

Has anyone used RCS, the Revision Control System, on LAN 114? It allows you to keep track of changes in programs and should be a very useful tool. In fact the article by William Hern in STA17 which recommended it was my initial reason for purchase. I decided to use it to document changes to MicroEMACS which didn't compile cleanly initially. Two problems occurred which have made me a bit wary of it, which is sad because it has such potential. I'll describe matters in a way suitable for someone who has read the STA article rather than reproduce the article.

Firstly, checking in using ci with all files in my working directory worked fine for so long that I became blasé. Then I tried to check in G:\ME\INPUT.C and trashed the whole of the G partition on my disc. I've still not recovered from the trauma; it's like a minor form of rape with all the associated feelings of violation and guilt.

Secondly, I occasionally checked differences between an archived file and the working version. The 'SYSTEM HALTED. PLEASE USE FOLDR100.PRG' error occurred regularly - even when I used foldr900.prg. What is worse, my archived file became corrupted by the insertion of part of the statement of the difference between the two files being checked. This must be a bug, but whether in rcsdff or diff I don't know. Help please.

My final area is concerning full EMACS. I decided to see what it was like and obtained it on WPR 66-68. In spite of extensive efforts all I've been able to get it is a message to the effect that Atari is not powerful enough so if anyone out there has been able to get sense from it I would be grateful for information on how I can do so. I've tried (all reasonable variations on) everything suggested in both the 'read-me' and 'problems' files but without success.

For all these, I can be reached on 0942-817892.

Barrie Stott

TOS 3

Does anyone know anything at all about TOS 3.01? Is it copyrighted by Atari? Was it used in anything other than the TT? Does documentation exist for it? Is there an icon editor available for it? Do later versions exist? A thousand questions in search of answers....

The copy I'm using was sent to me by a German contact and is, naturally enough, entirely in German. It's disc-based and comes with a 2K list of new features and incompatibilities, so I'd guess that this was a beta-test version supplied to TT developers.

I've had it running on my STE for a month now, and it appears to be stable, well-specified and, as far as I can tell, bug free. Quick ST 2 and UIS III are definitely incompatible, but I've encountered no problems when using NVDI and the excellent Edison PD accessory (an all-in-one file selector, mouse accelerator and screensaver).

But how does it perform? Well, the most striking features are that you can now select icons from a wide range inside the programme, select or enter masks, 'Select all Files', load previously saved set-ups from a disc, drag any file from a window and install it on the desktop, and change the background fills on either the desktop or windows. All alterations can then be saved via the usual 'Save Desktop' option. It runs suprisingly quickly with NVDI installed and, in my view, looks one hell of a lot better than Neodesk; it's clean, efficient and very sexy. Let a thousand alternative desktops bloom (but give me TOS 3 any day).

John Weller

● Yep, yet another naughty version of TOS. There are numerous disk-based versions of NewDesk and TOS around, and they are all copyright Atari. You'll get all of the advantages of TOS 3.01 from an upgrade to TOS 2.06, which also comes with a manual detailing the features of the new desktop. It's a shame that Atari never released NewDesk as a software-only upgrade for TOS 1.4 users who have no need or use for the OS changes in 2.06 but are tempted by the features of the new Atari desktop. NewDesk is a lot cleaner and tidier than most replacement desktops.

UIS III should work OK if you set it up as an auto-booting application so that it installs as if it were being launched from the desktop.

X Boot

I wonder if anyone can shed any light on a problem I have encountered in using X-Boot on my STE Mega 4 and Gasteiner Hard Drive. I started using X-Boot last November and was very pleased with its ease of use and flexibility. Immediately after Friday 13th August it started causing problems - Desktop Icons moved, disappeared or became corrupted, usually stable programs would freeze or crash, the screen would suddenly go into inverse video etc etc. Every time I booted up the problem worsened until it became impossible even to exit to the desktop.

I removed X-Boot whereupon everything ran normally again. I reinstalled X-Boot and the problems restarted. Suspecting a virus I changed the system date to 12th August, reinstalled X-Boot and everything ran normally! I checked for a virus using the latest version of the Ultimate Virus Killer, found none so I enlisted HiSoft's help. They tried hard but couldn't solve the problem. In case there was a virus elsewhere in the system I reformatted the Hard Disk, reinstalled X-Boot from the original write protected disk before installing anything other than a desktop information file - and the problems started again! So I capitulated, purchased Superboot and have experienced no further problems since.

A J Blythe

Programmers' Forum

In this month's edition of ST Applications' regular programming column, a chaotic miscellany of odds and ends from a fragmented hard disk.

TNY picture files

Further to last month's discussion about the .TNY picture format, we'll start by looking at some code that was omitted from the last column owing to lack of space. In addition to providing code to view and cycle TNY pictures, **John Phillips** of EasyPill Software, London, included a subroutine to create TNY files. This is presented as Listing 1.

The routine is written in GFA BASIC, but should be fairly easy to convert to other dialects of BASIC or C as it is well structured and the variable names are fairly self-explanatory. Many thanks to John for sharing his work with us.

Tying up the loose ends

A long-dreaded purge of my hard disk has resulted in the tidying up of the Programmers' Forum folder. While sorting through the accumulated material, some long-buried odds and ends have come to light. Before we explore some of these, it might be interesting to note a few numbers that also surfaced. This is the thirty-fifth issue of the column, which has featured over sixty-five questions and tips from readers. These have covered subjects as diverse as graphics tablets and GEM programming, vector interception and screen-scrolling. C, assembly language, BASIC and Modula 2 have featured in the listings.

Up from the depths of the directory tree have come some contributions that for one reason or another (usually lack of space), have yet to make it into print. Over the next few columns, these pieces will receive their turn in the limelight - apologies to the contributors concerned for the delay. With luck, by the end of this exercise, the queue for space in Programmers' Forum should have shrunk to manageable proportions. Maybe over the next thirty-five editions of the column, I might also manage to keep the column's hard disk folder under control!

Multitasking and MiNT

A widely trumpeted attraction of the Falcon030 is that it is supplied with MultiTOS, a multitasking version of the normal ST operating system. MultiTOS was developed from Eric Smith's MiNT package which is freely available from the usual PD software sources (ST Club disk UTI.147), and runs on normal STs. **K J Wood** from Crawley has exploited the MiNT multitasking facility to provide a software version of a MIDI-Thru port which runs in the background.

The original version of this program was published in the column in STA 26. Since then, he has made some improvements and sent in a copy of the revised program, which appears as Listing 2. The design of the program is quite simple. It sits in a never-ending loop, reading bytes from the MIDI input port, and writing them to the MIDI output port. When the input port is inactive, control is offered to any other MiNT-aware programs via the Syield() MiNT function, thus allowing the program to run in the background, except when MIDI data is actually flowing. The program also processes some of the MIDI data particular to his set-up.

Mr Wood continues, with some advice for Tony Wagstaff, who in STA 29 wanted to know how to run a program at a specified time:

Tony Wagstaff might care to look at MiNT version 0.6. Writing MIDITHRU was easy, and MiNT makes writing a background program easy enough; just go round in a loop until the right time, do whatever you have to and carry on. I might expand MIDITHRU to be a cuckoo clock, with different sounds for each hour...

Keyboard manoeuvres

MiNT has other properties that make it useful for C programmers. It also provides a simplified interface for writing programs that modify the way standard operating system calls work. Another example from Mr Wood:

I have a UK model ST, but I've got used to the US keyboard layout, so needed to remap a few keys. Prior to MiNT, a program to do this had to be rather clever, because it had to stop badly behaved programs from mapping the keyboard back again, which usually involved heavy assembly language tricks.

All my program does is use the usual ROM functions to point the keyboard routines to a new table in RAM; the neat bit is that MiNT allows any GEMDOS BIOS or XBIOS function to be replaced with a C function, so I can stop other programs from resetting the keyboard by replacing the ROM functions with dummy C functions. As you can see, KEYTABLE [Listing 3]is a small and simple program entirely written in C.

Well, I'm not sure I'd agree that performing this task in assembly language is particularly arduous, but the point is well made. Without any knowledge of how the the operating system trap interface works, this program manages to install two new functions in place of existing XBIOS calls.

For those with who have not come across either MiNT or the topic of keyboard configuration before, some words of explanation are probably in order. Each key of the ST keyboard is allocated a number called the **scan code**. These run from 1 (Escape) up to about 114, with some numbers missing. These numbers are the same on all STs around the world. To turn this hardware code into an ASCII character value, the operating system uses a look-up table. In fact, there are three look-up tables: one for keys pressed on their own, another for when a shift key is also pressed, and a third for when Caps-Lock is activated. Each table consists of 128 bytes, more than enough space for all the keys on the keyboard.

To change the ASCII codes produced by a given key, all that has to be done is to alter the appropriate entry in the look-up tables. The default tables are held in the TOS ROM. In order to make any changes, these must be copied into RAM, and then the operating system told where to find its new data.

The operating system provides two XBIOS functions to manipulate this system. Keytbl(), XBIOS function 16, takes as its input the address of three look-up tables to use as new translation arrays. It returns the address of a short array whose three elements are pointers to the start of the unshifted, shifted and Caps-Lock tables. As in many other XBIOS functions, an input value of -1 is used to indicate that no change should be made to a setting.

The second function, Bioskeys() (function 24) simply restores the ROM look-up tables as the currently-active translation arrays, so undoing the effects of any Keytbl() call. There are no inputs required and no return values.

The final piece of information needed to clarify how the program works, is the MiNT facility referred to above. MiNT takes over the handling of the operating system traps,

and places the address of each operating system function in an array. By overwriting this array with a pointer to a C new function, it is possible to create substitutes for operating system calls. The XBIOS function array is obtained using the MiNT call Xbios_tab(). In this way, MiNT provides a useful conversion between C function calling conventions and those required by the operating system.

Armed with this data, the program is straightforward. It starts by making sure that the default ROM keyboard map is in place, and then determining where it is held. The variables u, s and c hold pointers to the start of the unshifted, shifted and Caps-Lock arrays. These translation tables are copied into the program's own arrays and then modified to reflect the US keyboard layout (at sign on shift-2, etc). Finally, these tables are installed and the XBIOS function array modified so that any attempt by another program to invoke either Keytbl() or Bioskeys() results in a call to the dummy functions at the top of the listing.

After it has installed itself and modified the system, the program has to ensure that it remains resident. On termination, its memory, which includes the currently-active keyboard mapping tables, would be returned to the free memory pool. When these are overwritten by another program, the result would be a highly confusing attack of gibberish!

To avoid this, the program simply puts itself to sleep permanently in the background, by yielding control to all other programs in an infinite loop. This is a neat alternative to the Ptermres() call that a conventional (non-MiNT) program would have to use.

Rounding off this brief tour through some of the features of MiNT, Mr Wood has provided a copy of his MiNT configuration file INIT.RC (Listing 4) which shows how to load the two programs featured here into the background, and then to boot on into a GEM environment.

Slow floppy disks

The ST's floppy disk performance has never been particularly speedy compared to that of other computers. This aggravating feature prompted a letter from **Ian Baker** from Great Bookham in Surrey:

I have written a program using Lattice C which requires many disc accesses. The time taken to read even short files from the floppy disk is longer than I think it needs to be.

I am using the library functions fgets() and fputs() for what are mostly short strings. Could you please give some advice on how to speed up disc accesses within C programs. I am prepared to build buffers and make operating system calls if this will help, but would like to know whether this would be worthwhile before I devote too much time to it.

One of the easiest ways to optimise library I/O function performance is to enlarge the buffer they use. The underlying principle is to make as few accesses to the disk as possible, taking large blocks each time. In Lattice C v5.5 (and in v5.0 too), the default size is 512 bytes. Quite reasonable speed increases can be obtained by increasing this to 2K or 4K bytes. The optimum value for any particular application is rather difficult to determine, as it depends on the size of the typical item being read or written. Listing 5 details a simple program illustrating how to change the buffer size, and the effects of doing so.

To further optimise performance, it might be necessary to change the way the program handles its data. This could involve writing customised substitutes for fputs() and fgets() which make use of a large memory buffer which is read/written with a single call to fread() or fwrite(). These latter functions are quite efficient in Lattice C v5.52, and so little extra speed is likely to result from accessing the operating system directly.

Next Month

Next month, Programmers' Forum will feature some more newly-rediscovered questions and tips from readers' letters. Keep the letters coming in - the more we receive, the better the column gets! Hints on any subjects, or questions about programming problems should be sent to the address below. All contributions, no matter how simple or advanced, are most welcome. Please include your address on the letter, so I can get back to you if anything in your contribution is unclear. Email addresses are useful too.

One last point, about email. Whilst I am very happy to receive contributions by email, please include your real name in the message, as cryptic alphanumeric user identifiers are not terribly useful. Please send a disk (or email) if there are large chunks of text or ASCII source code: I have no time to retype lots of material. Naturally, disks will be returned if an SAE is included.

Jon Ellis
Programmers' Forum
29 Ashridge Drive
Bricket Wood
St Albans
Hertfordshire
AL2 3SR
Email:
jonellis@uk.co.compulink.cix
(from JANET)
jonellis@cix.compulink.co.uk
(everywhere else)

Listing 1

```
'
'                      **********************
'                      *                    *
'                      *    TNY Compress    *
'                      *                    *
'                      **********************
'
'                            John Phillips
'                      EasyPill Software  -  Aug 1993
'                      Sample code to compress a screen
'                            Any Resolution
'
' ------------------------------------------------------------------------
'
'       The following routines can be used to compress a screen
'
'   They are not linked into the above code, you will need to write
'   the necessary file handling and installation yourself. Note that
'   PROC screen_ptr is essentially the same as PROC get_screen_ptr
'   [Listing 2, STA 35]. No comments, you're on your own.
'
> PROCEDURE compress
'
  ' ------------------------------------------------------------------------
  '
  '  Required to run :
  '
  '       Picture to compress on screen
  '
  '       pal%         -  Start address of 16 words containing
  '                       the screen palette
  '
  '       buffer%      -  Start address of at least 43008 bytes of
  '                       work space
  '
  '       way%         -  Cycling direction    -1 = to the left
  '                                             0 = off
  '                                            +1 = to the right
  '
  '  If way% is set :
  '
  '       l_limit%     -  Left colour limit for cycling    0 to 15
  '       r_limit%     -  Right colour limit for cycling   0 to 15
  '
  '       speed%       -  VBLs per cycle step              1 to 127
  '
  '       ssdt%        -  Slide show display time in
  '                       cycle steps                      0 to 32767
  '
  '
  '   Check you have reserved enough space if compiling
  '
  ' ------------------------------------------------------------------------
  '
  screen_ptr%=XBIOS(2)
  screen_end%=XBIOS(2)+31998
  '
```

```
  cntrl_base%=buffer%+256
  dat_base%=buffer%+11008
  '
  cntrl_ptr%=cntrl_base%
  dat_ptr%=dat_base%
  '
  row%=0
  column%=0
  plane%=0
  GOSUB save_counters
  '
  last_word%=DPEEK(screen_ptr%)
  '
  count_words%=1
  count_repeats%=0
  '
  REPEAT
    '
    GOSUB screen_ptr
    '
    this_word%=DPEEK(screen_ptr%)
    '
    IF last_word%=this_word%
      '
      INC count_repeats%
      '
      IF count_words%>0
        DEC count_words%
        INC count_repeats%
        IF count_words%>0
          GOSUB words
          count_words%=0
        ENDIF
      ENDIF
      '
    ELSE
      '
      INC count_words%
      '
      IF count_repeats%>0
        GOSUB save_counters
        GOSUB repeats
        count_repeats%=0
      ENDIF
      '
    ENDIF
    '
    last_word%=this_word%
    '
  UNTIL screen_ptr%=screen_end%
  '
  IF count_repeats%>0
    GOSUB repeats
  ELSE IF count_words%>0
    GOSUB words
  ENDIF
  '
  cntrl_len%=cntrl_ptr%-cntrl_base%
  dat_len%=dat_ptr%-dat_base%
  '
  GOSUB save_file
  '
RETURN
> PROCEDURE repeats
  '
  IF count_repeats%>127
    POKE cntrl_ptr%,0
    INC cntrl_ptr%
    POKE cntrl_ptr%,count_repeats% DIV 256
    INC cntrl_ptr%
    POKE cntrl_ptr%,count_repeats% MOD 256
    INC cntrl_ptr%
  ELSE
    POKE cntrl_ptr%,count_repeats%
    INC cntrl_ptr%
  ENDIF
  '
  DPOKE dat_ptr%,last_word%
  dat_ptr%=dat_ptr%+2
  '
RETURN
> PROCEDURE words
  '
  IF count_words%>127
    POKE cntrl_ptr%,1
    INC cntrl_ptr%
    POKE cntrl_ptr%,count_words% DIV 256
    INC cntrl_ptr%
    POKE cntrl_ptr%,count_words% MOD 256
    INC cntrl_ptr%
  ELSE
    POKE cntrl_ptr%,-count_words%
    INC cntrl_ptr%
  ENDIF
  '
  row%=sav_row%
  column%=sav_column%
  plane%=sav_plane%
  screen_ptr%=sav_ptr%
  '
  FOR n%=1 TO count_words%
    DPOKE dat_ptr%,DPEEK(screen_ptr%)
    dat_ptr%=dat_ptr%+2
    GOSUB screen_ptr
  NEXT n%
  '
  GOSUB screen_ptr
  '
RETURN
> PROCEDURE save_counters
  '
  sav_row%=row%
  sav_column%=column%
  sav_plane%=plane%
  sav_ptr%=screen_ptr%
  '
RETURN
> PROCEDURE screen_ptr
  '
  INC row%
  IF row%=200
    row%=0
    INC column%
    IF column%=20
      column%=0
      INC plane%
    ENDIF
    screen_ptr%=XBIOS(2)+(2*plane%)+(8*column%)
  ELSE
    screen_ptr%=screen_ptr%+160
  ENDIF
  '
RETURN
'
> PROCEDURE save_file
  '
  POKE buffer%,XBIOS(4)+ABS(3*way%)
  '
  IF way%<>0
    '
    POKE buffer%+1,(16*l_limit%)+r_limit%
    POKE buffer%+2,way%*speed%
    POKE buffer%+3,ssdt% DIV 256
    POKE buffer%+4,ssdt% MOD 256
    '
  ENDIF
  '
  pal_base%=buffer%+1+ABS(4*way%)
  '
  BMOVE pal%,pal_base%,32
  '
  POKE pal_base%+33,cntrl_len% DIV 256
  POKE pal_base%+34,cntrl_len% MOD 256
  '
  POKE pal_base%+35,(dat_len% DIV 2) DIV 256
  POKE pal_base%+36,(dat_len% DIV 2) MOD 256
  '
  BMOVE cntrl_base%,pal_base%+37,cntrl_len%
  BMOVE dat_base%,pal_base%+37+cntrl_len%,dat_len%
  '
  '            File now needs to be saved.
  '
  '     Start address is buffer%
  '     Length is 37+ABS(4*way%)+cntrl_len%+dat_len%
  '
RETURN
'
' ------------------------    End of listing    ------------------------
```

Listing 2

```
/*
** Listing 2.
** Programmers' Forum STA 36 (December 1993)
**
** Revised and improved version of MIDITHRU program
** first published in STA 26.  An example of multi-
** tasking using MiNT.  Written by K J Wood.
**
** Compiler system: GNU C
*/
```

```
#include <mintbind.h>

/*
** Define some constants.
*/

#ifndef FALSE
#define FALSE 0
#define TRUE (!FALSE)
#endif

#define MIDI 3

#define STATUS  0x80
#define NOTE_ON 0x90

/*
** Initialise global variables...
*/

int _stksize = 1024L;          /* Tells GNU C to keep memory usage down */


/*
** The program starts here...
*/

void main (void)

{
  int note_on = FALSE ;
  int channel = 0 ;
  long c ;

  while (TRUE)
    {
    if (!Bconstat(MIDI))
        {
        Syield ();
        }
    else
        {
        c = Bconin(MIDI);
        Bconout(MIDI,c);
        if (c == NOTE_ON)                    /* Bugfix following STA 26 */
            {
            note_on = TRUE;
            channel = 1 + (c & 0xF);         /* Number channels 1 to 16 */
            if (!Bconstat(MIDI))             /* Unlikely with (running) status */
                {
                Syield();
                }
            else
                {
                long n;                      /* The note identification byte */

                n = Bconin(MIDI);
                Bconout(MIDI,n);
                }
            }
        else
            if (c & STATUS)
                {
                note_on = FALSE;
                channel = 0;                 /* Make channel invalid */
                }

        if (note_on)                         /* Process any note-on messages */
            {
            if (!Bconstat(MIDI))             /* Unlikely with (running) status */
                {
                Syield ();
                }
            else
                {
                long v;                      /* Velocity byte */

                v = Bconin(MIDI);
                if (2 <= channel && channel <= 9)   /* Roland CM32L */
                    {
                    if ((v & 0x7F) > 0)              /* Preserve pseudo-note-offs */
                        {
                        v &= 0x7F;
                        v *= 3;
                        v /= 2;
                        if (v > 0x7F)
                            v = 0x7f;
                        }
                    }
                Bconout (MIDI,v);
                }
            }
        }
    }                                        /* End of main while loop */
}
```

Listing 3
=========

```
/*
** Listing 3.
** Programmers' Forum STA 36 (December 1993)
**
** An unusual way to achieve the equivalent of a
** terminate and stay resident (TSR) program using
** MiNT. The program uses MiNT's function trapping
** facility to configure the keyboard for a US machine,
** and then to prevent any other programs from changing
** the layout. Written by K J Wood.
**
** Compiler system: GNU C
*/

#include <mintbind.h>
#include <stdio.h>

/*
** Define some constants.
*/

#ifndef FALSE
#define FALSE 0
#define TRUE (!FALSE)
#endif


/*
** Initialise global variables...
*/

int _stksize = 1024L;              /* Tells GNU C to keep memory usage down */

static char unshifted[128];        /* Space for the keyboard mapping tables */
static char   shifted[128];
static char  capslock[128];

static char **keytable;            /* A pointer to the mapping tables       */


/*
** Function to block out any attempt to set a new set
** of keyboard tables.  The function is called in place
** of the normal Keytbl() routine.  It always returns a
** pointer to the program's US configuration tables.
*/

void *null_keytbl(void)

{
    return (void *)keytable;
}


/*
** Function to block out any attempt to restore the keyboard
** configuration to that held in the ROM using the Bioskeys()
** XBIOS function.
*/

void null_bioskeys(void)

{
    return;
}


/*
** Function to apply the differences between the
** UK and US keyboards to previously initialised
** key tables.
*/

void us_key(char *u,char *s)

{
    s[0x03] = '@';                 /* UK doublequote */
    s[0x04] = '#';                 /* UK pound       */
    s[0x28] = '"';                 /* UK at          */
    s[0x29] = '~';                 /* UK overscore   */
    u[0x2B] = '\\';                /* UK hash        */
    s[0x2B] = '|';                 /* UK tilde       */
```

```
}


/*
** The program starts here...
*/

void main(int argc,char **argv)

{
    long *xbiostable;
    char *p, *u, *s, *c;
    int i;

    /*
    ** Locate the default ROM-based keytables ready for copying into
    ** RAM-based keytables and preserve pointers to them in case the
    ** latter are moved.
    */

    Syield();
    Bioskeys();
    keytable = (char **)Keytbl(-1,-1,-1);
    u = keytable[0] ;
    s = keytable[1] ;
    c = keytable[2] ;

    /*
    ** Stop other processes from pointing keytables back into ROM
    ** via Bioskeys()
    */

    Syield();
    xbiostable = (long *) Xbios_tab();
    xbiostable[24] = (long)null_bioskeys;

    /*
    ** Build RAM based keytables
    */

    Syield();

    p = unshifted;
    for (i = 0; i < 128; i++)
        *p++ = *u++ ;

    p = shifted;
    for (i = 0; i < 128; i++)
        *p++ = *s++;

    p = capslock;
    for (i = 0; i < 128; i++)
        *p++ = *c++;
    us_key (unshifted,shifted);

    /*
    ** Tell the system to use the RAM based keytables then stop other
    ** processes from doing the same via Keytbl().
    */

    Syield();
    Keytbl(unshifted,shifted,capslock);
    xbiostable[16] = (long)null_keytbl;

    /*
    ** Process must remain resident to preserve the RAM based keytables.
    */

    while (TRUE)
        Syield();
}
```

Listing 4
=========

```
#
# MiNT startup file
#

# Background processes for soft MIDI thru and US keyboard layout- note the
# ampersand at the end to indicate background operation.

d:\usr\gnu_c\src\midithru\bin\midithru &
d:\usr\gnu_c\src\keytable\bin\keytable &

# Running startgem.prg from the AUTO folder doesn't work if we then run MiNT;
# the GEM desktop stays put. To fix, run startgem.prg here.

c:\auto\startgem.prg

# To use GEM programs such as Mupfel/Venus we must initialise the AES and VDI
# by running gem.prg at the end of the MiNT startup file.

c:\usr\mint\binary\util\gem
```

Listing 5
=========

```
/*
** Listing 5.
** Programmers' Forum STA 36 (December 1993)
**
** Program to investigate the effect of varying
** the size of the buffer used for standard I/O
** calls.
**
** Compiler system: Lattice C v5.52
** Compile options: Phase 1: -cargfku Phase 2: -ms
** Link with C.O and LC.LIB
** Written on 25th May 1992
*/

#include <osbind.h>
#include <stdio.h>

/*
** Address of 200Hz timer in low memory.
*/

#define _hz_200     0x04BA

/*
** Function prototypes...
*/

int main(int,char **,char **);

/*
** Global variables...
*/

char *filename = "A:\\TEST.TMP";
extern int _bufsiz;

/*
** The program begins here...
*/

int main(argc,argv,envp)

int argc;
char **argv, **envp;

{
    register int f, g;
    FILE *fp;
    unsigned long start, finish, time;
    void *oldSSP;

    printf("Testing _bufsiz values\n\n");
    for (f=0; f<=16384; f+=2048)
        {
        remove(filename);
        _bufsiz = (f > 0 ? f : _BUFSIZ);
        printf("\nBuffer size is %u bytes\n",_bufsiz);
        oldSSP = Super(NULL);
        start = *(volatile unsigned long *)_hz_200;
        if ((fp = fopen(filename,"wa")) != NULL)
            {
            for (g=0; g<1000 && !fputs("A test string\n",fp); g++)
                continue;
            fclose(fp);
            }
        finish = *(volatile unsigned long *)_hz_200;
        Super(oldSSP);
        time = (finish - start) * 5;
        printf("Time taken was %u.%03us\n",time/1000,time%1000);
        }
    printf("\nPress RETURN to continue: ");
    getchar();
    return(0);
}
```

CAD Column

Joe Connor gives another utility a permanent home in his AUTO folder and continues sharing his wares...

After a few minor teething troubles the Kandinsky registration scheme is working well. Because there have been a few changes to the registration procedure here's a step-by-step guide to registering Kandinsky:

* Try the Shareware version from the ST Club on disk GRA.184.
* If you would like to register:

a) make a cheque for £15 payable to J Connor;

b) be sure to include your Surname, Forename and address;

c) if you would prefer to have your Key number Emailed or Telephoned please enclose your details;

d) send cheque to: 65 Mill Road, Colchester, Essex.

Please do NOT send cheques for Shareware supported by this column to the ST Club as this causes unnecessary delay and postage charges.

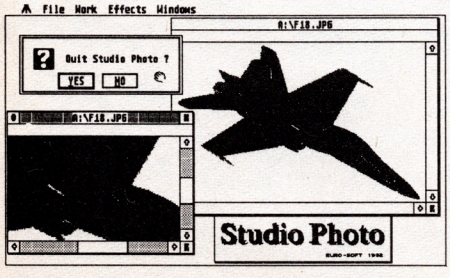
* I will now cash your cheque straight away and issue your personalised Key Number by Post, Email or Telephone.
* The latest version of all supported software will be printed in the CAD Column each month.
* Registered users can at any time send (to my address) a Stamped Addressed Envelope enclosing a double-sided disk for a free copy of the latest version.
* Uli has kindly allowed me to retain £3 from each registration fee to cover administration costs and the production of an English disk-based manual. When the manual is finished I'll let you know via the CAD Column and registered users can obtain a copy following the usual upgrade procedure.

Uli thanks everyone who has registered so far and apologises to anyone who had to wait several weeks for their Key numbers to be issued (the new scheme avoids this problem).

Thanks to Roger Beeney for pointing out the following observations. Calligrapher is happy with Kandinsky GEM files, but EasyDraw GEM files need to be cropped first. In Timeworks lines can be any width. (I'm not sure what Roger is getting at here and so I'll leave it to Timeworks enthusiasts to figure that out!)

Current Versions:

Kandinsky: V1.55
Winlupe: V6.6



Let 'em Fly!

Let 'em Fly! (LEF from now on) is one of the those extra special utilities which is so good it should be built into TOS. Atari were smart enough to buy the rights to MiNT, and so maybe they'll discover LEF eventually.

LEF is another product of the German Atari scene; on this occasion the package is Freeware with both German and English versions available. Order disk UTI.323 from the ST Club.

What makes Let 'em Fly special?

LEF adds two extra features to most GEM dialog and alert boxes:

1) Flying dialog and alert boxes: this means you can drag them around using the mouse.

2) Keyboard shortcuts: each option automagically gains an underscore. Options can now be selected by holding down the Alternate key along with the underscored character.

LEF is compatible with all Atari ST/STe/TT and Falcon models at all resolutions, including True Colour, and it's also MultiTOS compatible.

Installation: copy LEF into your AUTO folder and use either the PRG/ACC or CPX utilities to configure LEF to suit your needs. Most programs can take advantage of all LEF's features but some programs which make their own AES calls (harmlessly) ignore LEF altogether, whilst others utilise some, but not all, of LEF's features.

The options (See below right, from top to bottom):

* Let 'em Fly! Switches LEF completely on or off.
* Key Dials: automagically adds the underscore characters to enable keyboard shortcuts. Press the Alternate key along with the appropriate underscored character to select an option.
* Extended editor: most dialogs which include editable fields, into which text strings are normally entered, can take advantage of the following extra options which make life easier:

Special characters: for the ones you can't get at directly from the keyboard, press [Shift]+[Insert] and a small dialog appears containing them all for mouse selection.

GEM clipboard: LEF supports the GEM clipboard enabling lines to be cut, copied and pasted into the editable line.

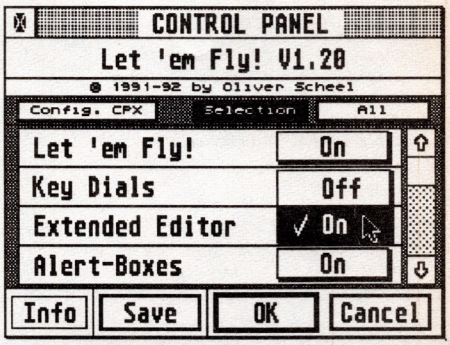
History: the last 20 text strings are stored for recall using the [Control]+[Cursor Up/Down] key combinations.

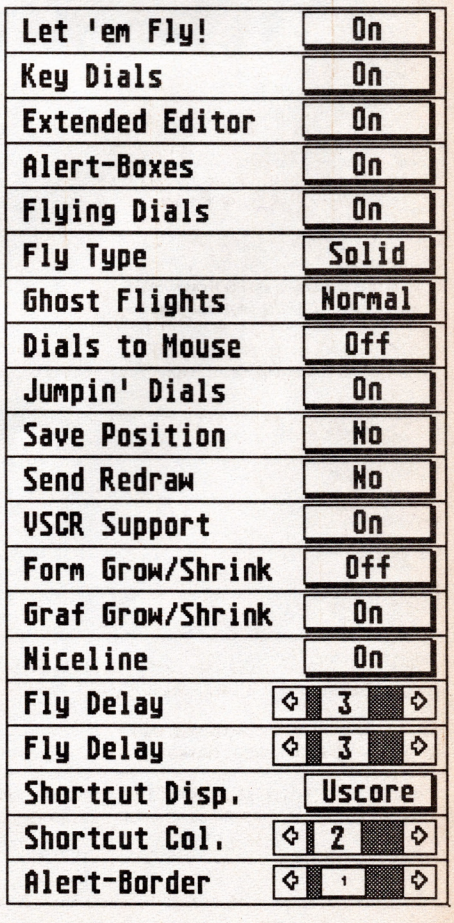
* Alert Boxes: are re-styled and sized to fit the text. The icons have been replaced and can be edited to suit your needs using any RSC file editor.
* Flying Dials: GEM dialogs consist of selectable and non-selectable objects. Clicking on any non-selectable object causes the mouse pointer to change into a hand, and in this mode it is possible to drag the dialog around using the mouse. Hold down the [Shift] key or right mouse button and the dialog becomes transparent (very handy to see what's underneath).
* Fly Type: there are two different types of flights:

Solid: everything is moved completely in real time. If you haven't got a blitter or graphic accelerator use the Hollow option.

Hollow: a box outline representing the dialog outline is moved in real time.

* Ghost Flights: normally a dialog remains solid during flight; if you set the Invert option flights are ghosted by default.
* Dials to Mouse: dialogs appear centred under the mouse pointer, handy for large (or virtual) screen use.
* Jumpin' Dials: click anywhere on the screen and dialogs jump to centre themselves under the mouse pointer. Again handy for large (or virtual) screen use.
* Save Position: next time you call a dialog it remembers where to appear.
* Send Redraw: a few programs suffer redraw problems; use this option to alleviate the symptoms.
* VSCR-Support: some virtual screen drivers (such as BigScreen 2.0) use a cookie to indicate the coordinates of current detail of the complete (virtual) screen. LEF uses this cookie to position dialogs on a visible part of the screen.
* Form Grow/Shrink: switches dialog grow and shrink boxes on/off.
* Graf Grow/Shrink: switches other (e.g. window) grow and shrink boxes on/off.
* Niceline: replaces the '-------' strings in drop down menus with a nicely styled graphical line.
* Fly Delay: sets the time between the mouse click and the flight.
* Shortcut Disp: can be either underscore or coloured characters (colour resolutions only).
* Shortcut Col: you want pink underscores? No problem...
* Alert-Border: sets the width (in pixels) of all alert borders.





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Newgen, my genealogy program, runs on any ST(E) or TT and is easy to use; it will print family trees, etc. Send large SAE for details or £17 for program. E G Richards, 2 Peckarmans Wood, London SE26 6RX.

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For further details contact: Stuart Coates. 9 Links Road, Kibworth Beauchamp, Leicester LE8 0LD.

Phillips MK II 14 inch Colour Monitor with Stereo Sound. Boxed and in perfect condition, 5 months old. £160. (0865) 770272. (36)

1040 STE 4MB Ram. 40 MB HD. Phillips Stereo Colour Monitor TOS 2.06, 1 Mb, Ext FDD, Mouse, Optical Pen Mouse, HD Loaded with Original quality software: WP, DTP, D/Base, Midi Prog, Breakthrough & Sampling Cartridge + Video Tutorial. GFA Progs & Manuals, CAD, 100's disks Shareware, Freeware, PD all to go for only £595.00. Call Tony any time (answer machine) 081-397-6480. (36)

Low cost hardware and software with original manuals & packing! 1Mb STFM with SM124 monitor and second drive £150, Calamus 1.09 with extra fonts £50, Fleet Street Publisher version 3 £25, Didot Line Art with Bezier curve tracer £40, Convector curve tracer £30. Near offers considered; please ask about other items. Tel: Watford (0923) 266636 evenings. (38)

Protar Host Adaptor (inc. DMA Cable to connect adaptor to ST & SCSI cable to connect hard drive to adaptor). In perfect condition with software. To make use of this you will need an SCSI Hard Drive and a power supply and possibly a fan - £40 (worth £100), I will pay postage. David Haider, 061-764-2442 between 4pm and 10pm. (38)

Gajits Breakthru Midi and Sample Sequencer, Drum Grid, Score Editor STE DMA Sample output or any Microdeal sampler, STFM Monitor Output, 8 16 Bit, mono samples. 64 Track, needs 1Mb Mono & Colour Display. Cost £130 sell £60. Tel Jon 0323 500910. MS DOS to work with P.C. Ditto Wanted. (37)

Police Quest 2, Hyperdraw, Intro to Sound & Music - £5 each. Phone Paul 0962 854726. (37)

Steinberg Pro 24 III Brand new, unopened £35 including postage. Michtron Utilities Plus £15 including postage. 0257 272119. (37)

ST Magazines: Atari ST User Jan 88 - July 90 (most issues) plus odds 91/92. Total 31 Mags. Atari ST World Oct 87-Dec 90 (issues 20-52) complete set barring 3 issues (Total 30). A few ST Format also, offers? (Buyer pays carriage!) Call Jon or Jeff (0992) 574973. (37)

Protar 50 DC Series 11 Hard Drive - £230. Philips CM8833 MK II Colour Monitor - £130. Tel 0903 690142 Evenings. (37)

That's Write 2.07 with DeskJet Special Disc £40, PageStream 2.2 Assistant £16, Data Manager Professional £15, Superbase Personal £13, K-Graph 3 £5, K-Spread 3 £5, Users' Guide to Timeworks £4, Atari ST Internals £6. Tel Chris 0272 781178. (37)

1MB STFM, Colour Monitor, 85MB Hard Disk, modem, 75+ magazines and over £1500 of software. Worth over £2300 in total, sell for £950. Write to Peter Strath, 75 Cavendish Road, Highams Park, London E4 9NQ. (38)

Mega 4 STE for sale. 16MHZ CPU, CAHCE RAM, 57 meg Internal hard disk, Vortex 386 PC hardware emulator with own fast and cache RAM. Separate high quality keyboard, VME bus, 3 serial ports. Almost new. All offers considered. Ring Adam (081) 989 9672. (37)

256KB Simms £7, suitable for upgrading an STE. Offer includes free mouse mat. Contact Trevor on 0480-380277. (36)

68882-16 Coprocessor for Falcon, new £49, TOS 2.06 kit incl. Roms, requires soldering: £39; Books - Abacus ST Tricks & Tips £6, Compute's Tech Ref. Guide ST TOS £9, ZZSoft Intro. Machine Code (incl. disk) £10, Glentop using ST Basic £1. Phone 0224 86 9558 after 6.00pm or weekends. (38)

Gasteiner Hard Disk (Seagate 50Meg) 1 year old, Internal Clock, ICD Host Adaptor and software, Plus Neodesk 3, Ultimate Virus Killer 5.9 and Useful PD Software - £200. Civilization, Monkey Is, Loom £10 each. Maniac Mansion, Zak McKracken £5 each. Wonderland £8, Cadaver £5, Deja Vu, Shadowgate, Uninvited £10 the lot. 021 429 8153 after 6pm (Birmingham). (37)

Trackball for STE by Contriver, little used, was £34.99, to clear at £15. Also STE Atari Mouse to clear at £3.50. All plus postage. Tel Brian Martin on 051 489 9733 between 6-10pm weekdays. (36)

Atari ST User magazines, May 87-Aug 91. 50p each + p & P. Tel (0827) 330427. (40)

Automatic Sheet Feeder for Panasonic Dot Matrix Printer KX-P1124, Complete with instructions - In very good condition. £40 ono. - Tel. 081-330-3531. (37)

Protext 5.53 - £40; Ultimate Ripper Cartridge - £10; Hyperdraw, Hyperpaint - £4.00 each; Robokit - £20. All + P & P; tel. 0722 334929. (37)

HiSoft Basic v1 - £8, HiSoft Devpac v2 - £8, Lattice C v5.06 - £25. All with full manuals, postage included. Call Andrew on 0788 811995. (38)

Wanted

FM Melody Maker, any reasonable price paid. Contact Graham Nash on 071 234 5098 - 9am-6pm. (38)

Your unwanted ST Software, Games, Applications etc. Anything considered at a realistic price. Must be boxed originals with manuals. Send list to Steve Aizlewood, 19 Brushfield Road, Holme Hall, Chesterfield, S40 4XF. (36)

Atari SM146 Hi-res Monitor and a copy of Script II. Tel 081-521 5271. (37)

K-Spread 4. Phone John 0226 202342 (evenings). (35)

Modem in good condition 2400 baud or faster. Will pay up to £50. Contact Jonathan on 0222 757022. After 4pm weekdays or weekends. (37)

Redacteur 3. Will swap complete authorised copy of Signum 2 including extras. Ring John on 031 226 7092 after 7pm. (37)

Atari Editor/librarian for Crumar/Chase Bit 01, or MIDI SysEx in order that I can make one. Will buy or swap. Please write to J. Gouveia, Rua Marques de Pombal 20, Alvor, 8500 Portimão, Portugal. (38)

Midi Mother Keyboard (No Sounds of its own) to work with Yamaha Midi Portasound Synth and Atari STE 1040 Micro. Tel 0745 825 036 anytime - Ask for Paul. (37)

General

I am deserting the Atari for the PC so I have loads of stuff to get rid of, willing to exchange for anything for the PC. 0983 615987 or 30 The Mall, Binstead, I.O.W. PO33 3SF. Wanted $3\frac{1}{2}$" Disks. (38)

Calamus 1.09 and S files printed on Laserjet 4; 300dpi at 20p per sheet; 600dpi at 30p per sheet. Send disk with fonts used, and a stamped addressed A4 envelope. Also very cheap litho printing A4/A5/business cards etc. SAE for price list & samples. Cheques to G. Franklin + S Russell, 67 The Avenue, Camberley, Surrey, GU15 3NF. (38)

That's Write and Write ON files output to HP DeskJet 500c at 25p per page plus p + p. HP DJ cartridges refilled with quality ink (black only) and tested: Standard - £6.99; High Capacity - £9.99 inc. p + p. Cheques payable to: K Hornby, 33 Ingleton Drive, Lancaster LA1 4RA. (36)

Call the Fractal BBS. Loads of features and very friendly. 2400BPS after 9pm on 0305 266304.

The Bird Brain BBS - 0305 860245 10pm - 10am every night, all welcome. (43)

The Prodigy's Base BBS 0509 852513 1pm to 11pm every night; dedicated Atari ST. (36)

I'll Try That Once! ST Based BBS. Loads of File Area's, 60-70 Message Echo's. 10 Online Games. All speeds V326 V426. Give it a Go! on 0453 765378 8pm to 8am. (40)

Membership of the Cheshunt Computer Club is the essential accessory for your Atari. If you live within reach of Herts then give me, Derryck Croker, a ring on 0923 673719 with your name and address and I will send you details. (R)

My Little Phoney BBS (0793) 849044 - all speeds up to V32bis and HST. Specialist Atari ST BBS, carrying all Atari-relatedfidonet and Nest Echoes, and importing international ST file echoes (AFN/ADN). High speed and technically aware callers are especially welcome! (R)

Crystal Tower BBS 081-447-8244 24hrs 300-2400 Baud (Towernet System) Atari ST, PC, Languages, Comms etc + much more. All welcome. (R)

Guide Dogs for the Blind Appeal - Please send used postage stamps to help this worthy cause to: 19 Dunloy Gardens, Newton Abbey, Co. Antrim, BT37 9HZ. (R)

STARGATE BBS: 0476-74616 V21 V22 V22BIS V23 Atari ST section; also PC, Amiga and Comms areas. Comms help and advice for ST and PC via ST Editor. Give it a call and leave a message. If you need comms software get Uniterm from the ST Club. (R)

Professional typeset from 1st Word disks. Over 100 Faces. Output to high quality PMT. Much better than laser. Also cheap printing A5/A4 single colour. Contact: AZTRAL Games, PO Box 8, Lowestoft, Suffolk, NR32 2AS. (R)

The Confederation BBS - Support bbs for all "HITCHHIKER" software releases and GFA programmers. All the latest PD/Shareware from Europe and USA as well as Netmail message areas. On line each evening 10.00pm to 7.00a.m., at all speeds up to 2400.

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Dr Graham McMaster,
Retsum Computing Solutions, 12 High Sreet, Turriff, Aberdeenshire, AB53 7DS. (0888 62328)

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'Alternatives' fanzine – Quarterly. £1 per issue. Issue 9 out now (Autumn), Issue 10 out soon. Send £1 (which includes p+p) and address to Alternaties, 39 Balfour Court, Station Road, Harpenden, Herts. AL5 4XT. Writers, visionaries, artists needed. Details to the above address.

Swap Nikon F301 + Two Sigma Zoom Lenses + Flash worth £450. Needed, Mega STE or High Spel STE with Colour Monitor. Cash adjustment either way. Phone John 021–783–5200. (36)

Help

I have a Protar 100 DC Series II Hard Drive (System Software 4.1.2) and a 1040 STF. The drive Formats OK, but attempting to copy a large file from floppy to the drive results in 3, 4 or 11 bombs. Turbodos helps – I can copy files of up to around 50K. The conflict must be with TOS 1.2. Can any one help? Protar and Cambridge Business Software don't answer my letters. Contact me on Internet Emeli c/o Panther & Carla Dist.Unige.It, or write to Clyde Meli, 36 Ta'xbiex Terrace, Ta'xbiex, Malta.

User Group

Are there any ST User Groups in Sussex or Surrey? Write Sydney Vale, 3 Albany Mews, Fourth Avenue, Hove, Sussex BN3 2PQ. (37)

Boxed Adverts:

£3.50 per issue

CASIO FZ SAMPLE EDITOR

Runs on any ST(E) with mono monitor/emulator. Visual editing with cut and paste, Time stretch/shrink. Resampling, Optimising etc.

£30 including printed manual postage and packing from:

A. Graves, 81A Cambridge Road, Girton, Cambridge CB3 0PN.

Morse/RTTY Transceive

Atari STE – Morse and RTTY transceive. Morse automatically locks to signal including hand sent code and will send at 10, 20 and 40 wpm. Noise filter option. Adjustable mark-space ratio. RTTY automatically locks to incoming signal up to 100 bands and will send at 50 and 25 bands. Both programmes have split screen type ahead buffers and are extremely easy to use: just fire up and you live. These programmes are £5 each. Write: *Mr. V. McClure, 43 Roman Way, Seaton, Devon EX12 2NT.*

DEGASART v2.0

Demo disk of the above compart tutorial is now available. Please send a cheque/P.O. for £1 or a blank DS disk and an SAE to *Keith Markland, 15 Stourton Road, Ilkley, W. Yorkshire LS29 9BG.*

Graph, Euclid and Stack

GRAPH can draw simple functions, implicit functions, parametric and polar functions and display the gradient functions of any of these. It will also display the solutions to first order differential equations and do a simple plot of complex functions. The zoom facility can also be used to find accurate solutions to equations.

EUCLID enables you to draw any geometrical configuration including conics, circles, perpendiculars, bisectors, etc.

Both these programs can save, reload, and print the drawing made by them.

STACK is an arithmetic calculator (Hewlett Packard type) for use with very large whole numbers. It will factorise smallish numbers (up to 15 figures) quite quickly.

Cost: £10 for a disk containing the programs, documentation and some examples.

Michael Girling, Camel Quarry House, Wadebridge, Cornwall PL27 7HZ.

ST Applications News

Forget the doom and gloom in the Atari market, the content and quality of ST Applications is going from strength to strength. Every month we have a struggle to find space for the articles queueing up to get into the magazine, and there is no shortage of new products waiting to be reviewed.

Like all ST publications we experienced a drop in circulation over the summer. But rather than cut the size and reduce the quality of ST Applications, we felt that it was best to increase the cover price and subscription rates to make up the difference. Feedback from the Readers Survey has re-affirmed our confidence that we are producing the type of magazine that you want to read. Indeed, if we can twist the arms of a few publishers and retailers for some advertising revenue we will be increasing the number of pages in ST Applications.

To soften the blow of the new subscription rates, we are re-introducing the Club benefits for subscribers that we operated for the ST Club Newsletter. These include reduced prices for PD and Shareware disks (from £1ea), significant discounts on new ST Club products, and monthly Subscriber Specials.

Many thanks to everyone who took the time to complete a Readers Survey. We will be publishing the results and announcing the competition winners next month.

Subscriber Specials

Mortimer

Save £10.00

Comprehensive multi-function utility with: Text Editor, Printer Spooler, Keyboard Macros, Virus Guard, Flexible RAM Disk, Snapshot, Disk Functions, Screen Saver, and Pocket Calculator. Subscriber Special Price: just £4.95

View II

Save £6.00

Buy this ST Review Essential Buy award winning file viewer for just £6.95 and you will be able to view text files, pictures, play music and animations, and access compressed files from the desktop. RRP: £14.95

3.5" DS Disks just £2.00 for 10!

These disks have been used, re-formatted (720K) and re-labelled. Limited stocks of this very popular line - so a max. of 20 disks per customer per order please.

All three offers must expire on 21st December 1993
Look out for the next set of Subscriber Specials in issue 37

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	Mortimer - £4.95 (Subscriber Specials Offers expire 21-12-93)		
	2nd-Hand 3.5" Disks - £2.00/10		
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	STC Calamus Fonts Catalogue - £2.95		
	Redacteur 3 Demo' 75p	Mono/ Colour	
	X-Debug - £24.95		
	Address - £12.95		
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Cheques and Postal Orders should be crossed and made payable to: **SIMPLE LOGIC & Co.** Following changes by Girobank, we can no longer accept payment from UK customers by Transcash or Giro Bank Transfer. Overseas orders welcome - please see Air Mail prices in our Overseas Price List. Overseas customers may pay by PostGiro to our Account: 37-820-7806. There is now a £3 (bank) charge for these payments.

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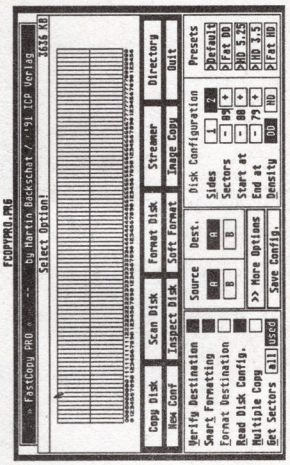
Please insert the following advert for ..... Issues under the following classification: / ST Contacts / For Sale / Wanted / General / User Groups. Adverts are free to ST Applications subscribers.

Warning: It is illegal to sell unauthorised copies of commercial software - All software offered for sale must be in the original packaging with manuals etc. Anyone found to be selling pirated software through the classified advert listings will be reported to the appropriate authorities. Software publishers do not normally offer user support or upgrades to users of software purchased second hand.

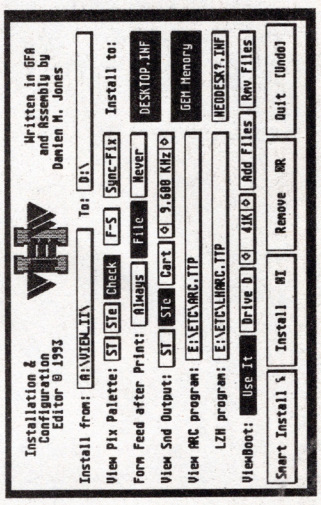
ST Club Product News



FastCopy PRO - £24.95

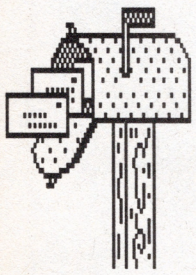
Imagecopy2 £19.95

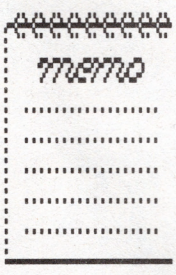
STC Calamus Fonts



View II - £14.95

Use this space for any feedback you'd like us to read.

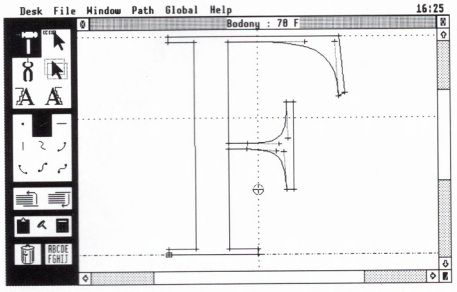




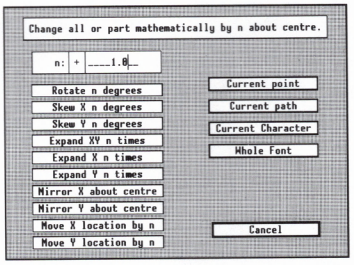
Fonty

Calamus Font Editor

This is a fully featured editing program for creating and editing Calamus CFN-format font files. Also, when used in conjunction with C-Font or Fontkit Plus, CFN files created with Fonty can be used to generate sets of bit-mapped fonts for use in packages such as: K-Spread4, Degas Elite, Timeworks DTP, Calligrapher, That's Write, Redacteur 3, and Wordflair.



Fonty features include: draw mode icons (Hammer mode, Pliers mode, Move mode, Select path mode, left and right kern mode), Grids and Guide Lines, Manual and Automatic kerning, Backgrounds for tracing (a Degas picture or a complete GEM font), a full feature Calculator to mathamatically manipulate fonts, and Window scaling. A separate program, PFB2CFN, reads a Postscript Type 1 Font file and copies it into a Calamus CFN font file.



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For users of Atari ST & Falcon computers

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Tel: 0602-410241 - Fax: 0602-241515

Software

❒ Address 1.6	£12.95	❒ Imagecopy 1 (Mono)	£ 9.95
❒ Astronomy Lab	£24.95	❒ Imagecopy Colour	£14.95
❒ C-Font2	£ 9.95	❒ Key Master	£ 6.95
❒ CalAssistant	£19.95	❒ Molgraph 2	£24.95
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❒ TW Clip Art Set 3	£ 8.50	❒ Redacteur Lite	£69.00
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❒ Easy Text Pro DTP	£39.95	❒ Trimfont	£ 9.95
❒ EdHack	£14.95	❒ Ultimate Virus Killer	£ 9.95
❒ Fontkit Plus 4	£24.95	❒ Universal Item Selector III	£14.95
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❒ Textstyle - launch price £14.95

Another cracking program from Jeremy Hughes, author of Imagecopy. Enter your text into Textstyle, select a Calamus or GEM font, add text effects and justification, and the resulting picture file can be imported into a whole range of packages. Great for generating headlines for wordprocessors like First Word Plus, Redacteur or Write ON; or use it with an art package such as PixArt to make posters, banners, greetings cards, etc. Thousands of applications. RRP - £19.95

❒ Textstyle bundle £9.95

Order Textstyle at the same time as Imagecopy2 or PixArt and save another £5.

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Details of our Falcon specific software.

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❒ Imagecopy 2 £19.95

There is no better way to grab, view, convert and print images on your ST or Falcon. Supports 9-pin and 24-pin Epson compatibles, Cannon BJ, HP Desk/Laserjet mono and colour printers.

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❒ View II £14.95

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❒ Warp9 v3.8 £29.95

At last, the Falcon enhanced version of our highly acclaimed screen accelerator package, Warp 9.

New stocks!

❒ Your Second Manual £8.95

Hidden away in an office in Denmark we have unearthed what must be the last stocks of this classic ST book. If you feel as if your computer knows more about computing than you do, then you need this book! A brilliant introductory text for beginners or anyone new to Atari computers. This is the authorised printed version of Y2M: beware of imitations!

Great fonts

❒ Calamus Font Set £8.50

10 DS disks of PD and Shareware fonts in a box.

❒ PageStream Font Set £8.50

10 DS disks of PD and Shareware fonts - includes four disks of PostScript fonts.

❒ STC Fonts Catalogue £2.95

Catalogue and printouts of the fonts in our professional quality range of Calamus fonts.

Omikron

We are the UK distributor for this famous German software publisher. Our release schedule for the English versions of their ST and Falcon software:

❒ PixArt £34.95

Feature packed true colour pixel painting program. PixArt is very quick, supports digitizers and graphic tablets, supports all ST-TT and Falcon screen resolutions (monochrome to 16.7 Million colours) and runs on all fully GEM-compatible graphics cards.

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